

AIRFIX magazine

OCTOBER 1970

FOR PLASTIC MODELLERS

2s 6d

MONTHLY



**IN
THIS
ISSUE**

**Wellington and Auster kit conversions
Modelling the Staghound armoured car**



flying saucers... ...part of the Humbrol invasion!

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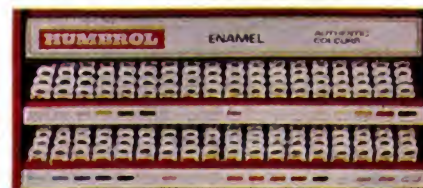


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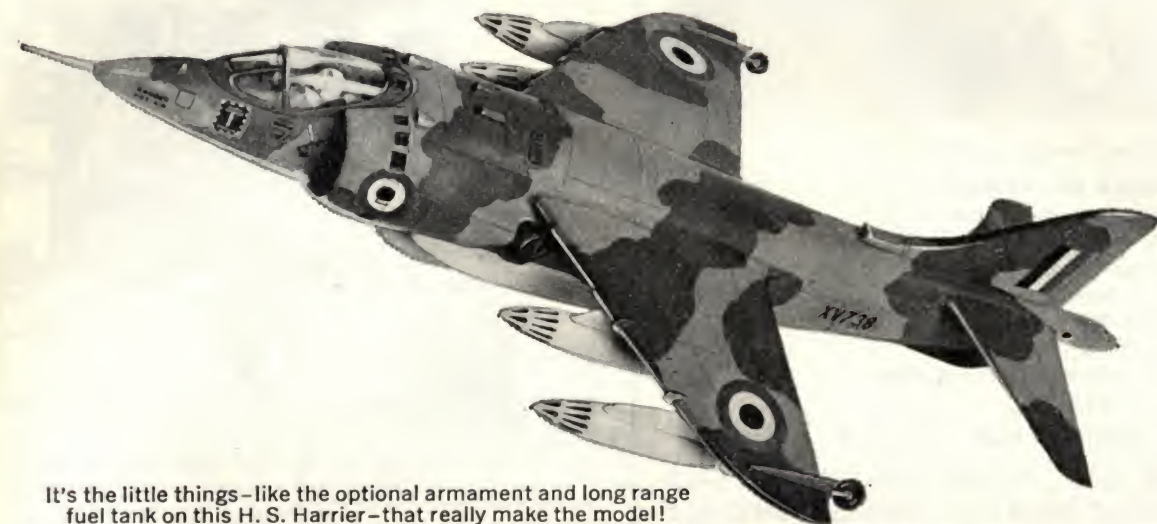


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Top left: Spitfire. Bottom left: E. E. Lightning. Right: Hercules



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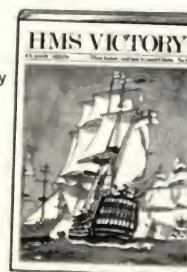
SHIPS!

Warships from World Wars I and II, as well as modern liners and historical ships.



STOP PRESS

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News, articles, conversions for modelling enthusiasts every month in AIRFIX MAGAZINE. 2/6 from your model shop or newsagent.

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Illustration of twin 88 gun position

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D1 1914-18 trench

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D3 The Redan

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D6 7.5 cm Anti-tank strong point

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MG's & Mounts etc. American AFV Tools German Pioneer Tools.

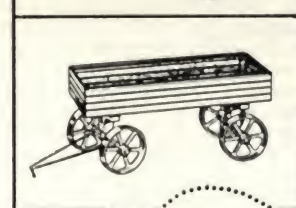
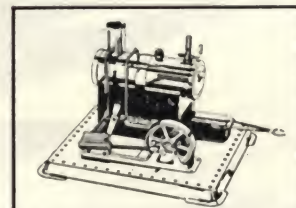
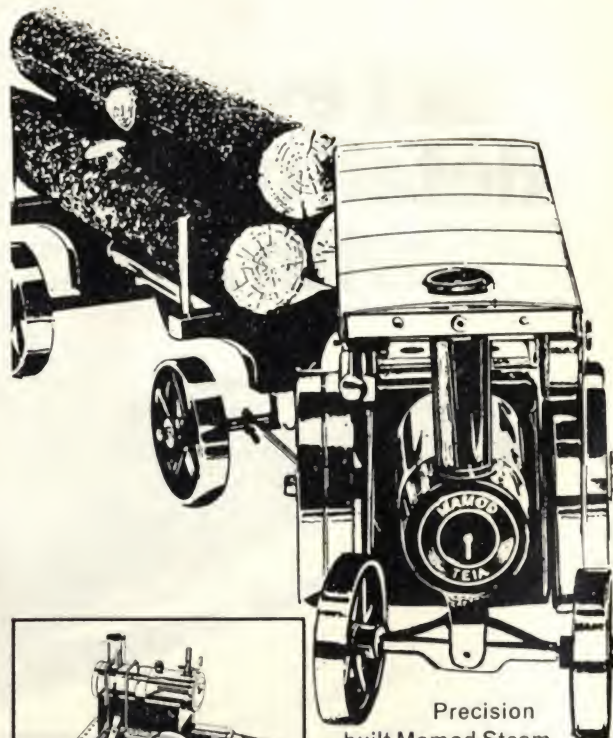
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Infantry figures are available in the following ranks:

officer, standard bearer, N.C.O., drummer and soldier.

Also in any of the following four positions:

attention, present arms, marching, attack march.

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Foot Chasseurs of the Guard: Tirailleur Chasseurs: Fusilier Chasseurs.

Fusilier Grenadiers: Tirailleur Grenadiers: Swiss and Dutch Grenadiers.

National Guards of the Guard.

Grenadiers: Fusiliers: Voltigeurs of the Line.

Foot Artillery of the Guard and of the Line.

Dragoons of the Line. Gendarmes.

Foot figures cost 14/- plus 1/6 postage and packing



Cavalry Figures

All mounted figures listed below are available as officers, standard bearers, trumpeters and soldiers

Hussars: Revolution; 1805-13; 1813-15.

Chasseurs of the Guard: Full Dress or Service Dress.

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Horse Artillery of the Guard or of the Line.

Mounted Grenadiers of the Guard.

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Mounted Dragoons of the Guard or of the Line.

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Senior and Assistant Staff Officers and Aides de Camp.

Cuirassiers 1804-15.

Lancers of the Guard and Line; French, Polish and Red Lancers.

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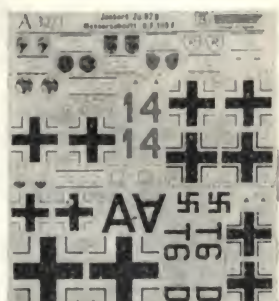
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Yellow series 7/9



These transfer sheets provide an adequate selection of useful markings for models in 1:32 and 1:35 scales. However, since sizes of markings were very flexible, the same transfers may be used on many 1:40, or even 1:25 scale kits where appropriate.

LT 1 German Markings; Contents: Air Recognition National Flags and National Symbols (Swastikas white) Chassis numbers in White and Black. Panzer Corps markings 'Guderian' and 'Kleist'. Markings for APC Company and H.Q. Towed and Tracked artillery. Tank unit H.Q. vehicle (Half-track, all these in Yellow and White. Panzer Div. markings for 15th — 1st — 14th — 23rd and 21st in Yellow and White, also Afrika Korps Palms Yellow.

Red series 5/9

Campaign Aircraft Transfers 1/72 Scale

North Africa (Allies) 1942
C5 Kittyhawk of No. 2 'Flying Cheateahs' Squadron SAAF. Hurricane II of 247 Squadron RAF. Warhawk P40F of 65th Fighter Squadron US 9th Air Force.

Red series 5/9

Special Aircraft Transfers 1/72 Scale

S1 Royal Navy Transatlantic Race Team, Phantom, Westland Wessex and Hawker Hunter.

Red series 5/9

S2 Royal New Zealand Air Force; Contents: Mustang IV of 3 Squadron (post war) Corsair F4U1 (War-time Pacific markings), Kittyhawk (Fiskens aircraft 'The Wairapa Wildcat').

Red series 5/9

S3 Handley Page Halifax BVII of No. 408 Goose Squadron, No. 6 Group RCAF 'Vicky' (Linton on Ouse, Yorks.) Avro Lancaster B1 of No. 463 Squadron RAAF 'Uncle Joe again' (Shelling-thorpe, Lincs 1945).

Red series 5/9



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Red series 5/9

LT 3 German. This sheet contains National Markings also Crosses White with thin Black Cross. Tank number plates 1939-40. Battery Markings for assault guns etc. Weight stencils, Licence plates for Half-tracks and Armoured Cars, Number plates for SS-WH-VL.

Red series 5/9

Special A.F.V. Transfers 1/76 Scale

TS 1 Hauptsturmführer Michel Wittman Tiger Tanks. Contents: Russian Front Kharkov 1943, West Front Normandy 1944.

Green series 4/9

T2 S Marking for Lee Grant. Contents: Lend Lease Russian US Training Vehicles, British Service North Africa, British Service Burma, US Service Pacific.

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Zulu War Lancer, Campaign Dress
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RE4 Praetorian Guardsman, parade dress, half armour, pilum, shield, cloak and crested helmet
RE5 Legionary Centurion, parade dress, transverse crested helmet
RE6 Legionary, half armour, pilum and shield
RE6A Legionary marching, half armour, pilum and shield
RE7 Legionary, parade dress, half armour, pilum, shield and crested helmet

RE8 Signifer (Standard Bearer)
RE8A Praetorian Standard Bearer
RE9 Aquilifer (Eagle Bearer)
RE10 Cornicer (Trumpeter)
RE11 Auxiliary Legionary, leather armour, pilum and shield
RE12 Auxiliary Slinger with shield, unarmoured
RE13 Auxiliary Archer, leather armour and shield
RE14 Auxiliary javelinman, leather armour and shield
RE14A Auxiliary Light javelinman with shield, unarmoured
RE14B Auxiliary, leather armour, spear and shield
RE15 Artilleryman with ballista/javelin
RE16 Artilleryman with catapult stone
RE17 Cavalry Officer
REC1 Cavalry Standard Bearer
REC2 Cavalry Standard Bearer
REC3 Cavalryman, half armour, spear and shield
REC4 Cavalryman, leather armour, javelin and shield
REC5 African Auxiliary Cavalryman with javelin and shield, unarmoured
REC6 Cavalryman, parade dress, half armour, spear, shield and cloak

PE1 Egyptian Auxiliary, half armour, spear and shield
PE2 Assyrian Auxiliary, full mail, spear and shield and bow in case
PE3 Phrygian Auxiliary, half armour, spear and shield, crested helmet
PE4 Phrygian Auxiliary, half armour and long axe, crested helmet
PE5 Assyrian Auxiliary, half armour, spear and shield
PE6 Assyrian Auxiliary Slinger, half armour
PEAC1 Assyrian Auxiliary Horse Archer
PEAC2 Camel Corps with spear and shield
PEAC3 Camel Corps with spear and shield and bow in case

SARMATIA c. 100 AD
SAC4 Cataphract with lance (Kontos), full mail, armoured horse

GREECE c. 490 BC
G2 Hoplite (for use with phalanx) with pike, Corinthian-type helmet crested
G3 Hoplite with spear, Corinthian helmet crested
G4 Officer, Corinthian helmet crested with cloak
G5 Standard Bearer
G6 Trumpeter
G8 Archer with cuirass, attic helmet crested
G9 Archer, unarmoured
G10 Slinger with shield, unarmoured
G11 Pelast with javelin, unarmoured

PERSIAN EMPIRE c. 500 BC
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PE2 Immortal, half armour, spear and shield, bow in case
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PE7 Officer
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PE9 Cavalryman with spear and bow in case, unarmoured
PE10 Cavalryman, half armour, spear and shield
PE11 Cavalryman with spear and shield and bow in case, unarmoured
PE12 Cataphract, full mail with spear and shield, bow in case and armoured horse
PEA1 Egyptian Auxiliary, half armour, spear and shield
PEA2 Assyrian Auxiliary, full mail, spear and shield and bow in case
PEA3 Phrygian Auxiliary, half armour, spear and shield, crested helmet
PEA4 Phrygian Auxiliary, half armour and long axe, crested helmet
PEA5 Assyrian Auxiliary, half armour, spear and shield
PEA6 Assyrian Auxiliary Slinger, half armour
PEA7 Assyrian Auxiliary Horse Archer
PEAC1 Camel Corps with spear and shield
PEAC2 Camel Corps with spear and shield and bow in case

EQUIPMENT
V4 Heavy Caraballista
V5 Catapult
MEDIEVAL ERA c. 1300
M1 Foot Soldier with poleaxe
M2 Foot Soldier with long spear and shield
MCI Mounted Knight with lance and shield

NAPOLÉONIC ERA
British Infantry .. Highlander
French Infantry .. Grenadier of the Guard
Fusilier
Line Grenadier
Mameluke
Chasseur a Cheval
Hussar

WORLD WAR II
MG1 German Infantry with rifle and bayonet
MG2 German Panzer Grenadier with S.H.G.
MG3 German Officer kneeling, holding Luger binoculars
MG4 German Infantry kneeling
MG5 German Infantry kneeling, holding ammunition belt
MG6 German machine gun and tripod

PRICES:
Foot models .. 1/3 each
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Camel and rider .. 4/6
Caraballista and catapult .. 5/6
German machine gun and tripod 1/3

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French Grenadier
of the Guard 1815
French Drum
Major
Napoleon
Mounted
Hussar



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GARRISON 54 mm MODELS



GC3 Cavalryman, half armour, Boeotian helmet and shield
GC4 Cavalryman with javelin, unarmoured
GC5 Cavalryman, leather armour, spear and shield, attic helmet crested

GAULS c. 60 AD
GA3 Officer, crested helmet, ha
GA4 Infantryman with spear and shield, unarmoured
GA5 Trumpeter
GAC1 Cavalryman with spear and shield and cloak, unarmoured

EQUIPMENT
V4 Heavy Caraballista
V5 Catapult
MEDIEVAL ERA c. 1300
M1 Foot Soldier with poleaxe
M2 Foot Soldier with long spear and shield
MCI Mounted Knight with lance and shield

NAPOLÉONIC ERA
British Infantry .. Highlander
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WORLD WAR II
MG1 German Infantry with rifle and bayonet
MG2 German Panzer Grenadier with S.H.G.
MG3 German Officer kneeling, holding Luger binoculars
MG4 German Infantry kneeling
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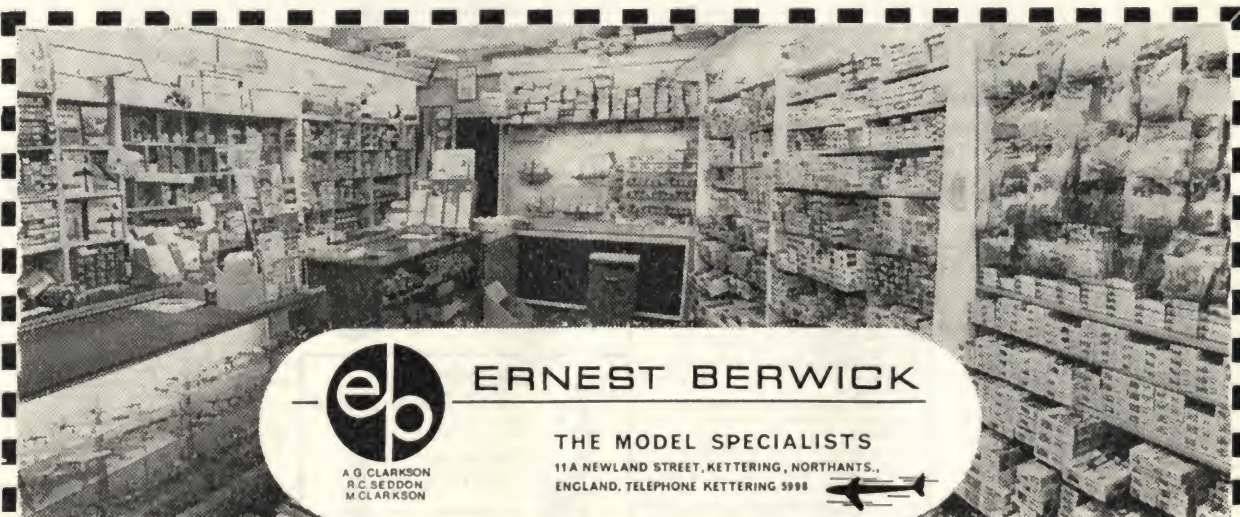
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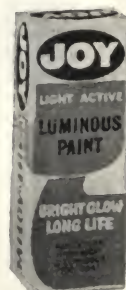


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AIRFIX magazine

AIRFIX magazine FOR PLASTIC MODELLERS

October 1970

Volume 12 No 2

Editor Chris Ellis

Cover Picture

The British Army's standard tracked carrier, widely used in Britain and BAOR, is the FV 432 which is employed in the basic armoured personnel carrier role, as shown here, or in a wide variety of special roles including recovery, mortar carrier, Wombat carrier, ambulance, command, or Swingfire missile launcher. The FV 432 can carry a rifle section in its basic role and is designed to be habitable for three days fully closed down in nuclear warfare conditions. It has a front-mounted standard Rolls-Royce B series engine and a top speed of 32 mph. Vehicles in first line service are now frequently camouflaged in the style shown here, with green, grey, dark earth and olive drab as the basic colours. The detachable call sign number board is worthy of note. This particular vehicle is from 'A' Coy, the Sherwood Foresters from the School of Infantry, Warminster, Wilts. The School of Infantry formation sign - a bayonet on a red square - is seen on the left side of the glacis plate while the infantry 'arm of service' flash is partly obscured by the headlights.
(Picture by Simon Dunstan)

Next publication date:
October 23, 1970

Editorial Offices:

PSL Publications Ltd
9 Ely Place
London, EC1
Tel: 01-405 2297

Advertisement Representatives:

Jackson-Rudd & Associates Ltd
Field House, Breams Buildings
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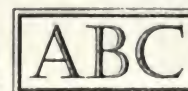
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Circulation Department:

Surridge Dawson & Company (Productions) Ltd
Publishing Department, 136/142 New Kent Road, London, SE1
Telephone: 01-703 5480

Airfix magazine is published for the proprietors, Airfix Products Ltd, by PSL Publications Limited, on the fourth Friday of each month. Annual subscription rate 36s (USA \$5.50) from Surridge Dawson & Company (Productions) Ltd. Second Class postage paid at New York Post Office, N.Y.

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MEMBER OF THE AUDIT
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JUMPING from the late 'forties into the mid-seventies brings problems, as the maritime experts of the RAF's No 18 Group are finding out. The men of the former Coastal Command have become the centre of attention as they introduce the new Hawker Siddeley Nimrod into operational service. The most advanced maritime reconnaissance aircraft in the world, and the first all-jet maritime aircraft outside the Iron Curtain, Nimrod is as far removed from the Shackletons it will replace as its progenitor, the Comet airliner, was from the Avro York.

Its introduction, therefore, involves the development not only of new operational techniques, but completely new command and control procedures, new air traffic rules, new training and maintenance programmes and so on.

Leading this metamorphosis is No 236 Operational Conversion Unit at RAF St Mawgan, Cornwall, with which Nimrod entered RAF service in October last year, and which is currently training the crews for No 201—the first operational Nimrod squadron.

Some aspects of introducing Nimrod into service have gone far



more easily than expected—converting crews who have spent years flying the slow, low-level, piston-engined Shackleton to the new jet, for instance. This presented a problem somewhat similar to the one faced by the then Transport Command some years ago when crews from piston-engined Hasting aircraft converted to the Comet. Due to the different operational environment, conversion problems were expected, if anything, to be even more marked.

But, thanks to a highly-sophisticated Nimrod simulator, installed at St Mawgan shortly before the arrival of the first aircraft, aircrew conversion has been proceeding much easier than anticipated.

The simulator, first of four being built by Redifon Ltd at a cost of some £3,250,000, is the first to enter the RAF's maritime world. It is proving so valuable that some of the old Maritime



Top: XV230, the first Nimrod to be delivered to the RAF poses for the camera. **Bottom:** New markings for the Nimrod. Seen at RAF St Mawgan recently XV233 carries its 'last two' on the fin.



On the way to the take-off point Nimrod XV235 passes the other seven aircraft forming No 236 OCU at St Mawgan.

Operational Training Unit hands are wondering how they ever managed without one.

With its help, and due also to a new—and unique—training system whereby the same instructor takes a pupil pilot through both the simulator and flying stages of his course, pilots are going solo on the Nimrod after only seven hours dual instruction—which compares with roughly 20 hours to convert a Canberra pilot on to a Vulcan.

Already one of the most advanced simulators in the world—it took two years to build and utilises, for instance, a full colour visual system on which can be simulated every type of meteorological condition the real aircraft is likely to meet—the Nimrod simulator will become unique when, shortly, the world's first Maritime Crew Trainer is added to it.

At the moment, the simulator can cater only for pilots and flight engineers. But any maritime patrol aircraft is toothless without the men 'down the back'—the tactical navigators and air electronic operators who work the maze of specialised equipment which finds, tracks and, if necessary, attacks ships and submarines.

The Maritime Crew Trainer to be installed at St Mawgan will do for these men what the simulator does for the men 'up front'. Capable of being linked electronically to the simulator, so that a whole crew can operate as one entity, or operating independently, the Crew Trainer will be an exact copy of the internal equipment of the Nimrod. All the various sensing devices will 'work', target information will appear on the operator's screens, bombs will be dropped and so on—the pilot's visual system even has built into it a sequence whereby he can 'fire' a missile, actually guide it on to the target, and even see it 'destroy' the target.

The advantages of all this are obvious. Aircraft have only a limited life, and they are costly things to operate. Time spent teaching people to fly them, therefore, is time—and money—spent using the aircraft for a purpose for which it was not built.

A simulator, on the other hand, costs much less to operate and can be utilised much more intensively than any aircraft. When the Nimrod simulator is in full use, it will be running for 18 hours a day, six days a week. And, of course, if you 'crash' a simulator, all you do is re-set the switches.

But apart from its own role of training crews to fly the aircraft, No 236 OCU has a leading role in developing operating and control procedures for the Nimrod. By simply flying the aircraft, crews have spotlighted areas where Nimrod's vastly increased performance over the Shackleton has demanded fundamental changes in procedure.

For example, one of Nimrod's big advantages is that it can fly to its patrol area at high speed and high altitude, and then drop down to low level, shut down two engines, and cruise for extended periods. But the high altitude airspace over the North Atlantic is amongst the most congested in the world, and initially the air traffic control authorities did not take kindly to the thought of an aircraft dropping straight down through the crowded air lanes and, at the end of its patrol, climbing back up through them. However, with the help of the OCU staff, procedures have now been worked out which maintain the stringent air safety standards necessary over the North Atlantic.

It was necessary to re-train not only the crews to fly it, but the headquarters staff who control it. Used to dealing with the low, slow Shackleton the maritime world has operated with for the last 20 years, they suddenly had to accustom themselves to controlling an aircraft that operated twice as fast, twice as high and twice as efficiently as its predecessor.

In the medical and psychological fields, too, Nimrod is pressing its claims. It is already a firm favourite with its crews. For years they have been used to spending anything up to 12 or 15 hours, cocooned in a noisy, uncomfortable Shackleton, being bumped around as the aircraft, lacking the performance to get above the weather, bores its way through it. Now they sit in spacious, pressurised, upholstered comfort as Nimrod glides to and from the patrol area well above the weather. And anyone who has spent any time in a Shackleton will know what a relief it is to exchange the cacophony of those four Griffon engines for the subdued whine of jets.

WORLD AEROBATIC CHAMPIONSHIPS

The World Aerobatics championships, staged for the first time in the UK at RAF Hullavington, brought individual success to the Russians, the team prize for the Americans and a high place for Britain's own aerobatic champion Neil Williams.

For the aircraft enthusiast there was plenty to see and admire, both on the ground and in the air. In spite of dreadful weather on the public day at the end of the championship, the competitors defied the lowering clouds and rain to put on aerobatic displays which brought the crowds out of their cars to watch.

There were also some very interesting aircraft types to drool over and as far as my own interests were concerned there was nothing so way out as the Super Chipmunk conversion presented by Art Scholl. Registered N13Y, this superb aircraft looked nothing like the Chipmunk you or I see on weekends operating from the local flying club or giving air experience rides to Air Cadets. The only part that seemed anything like the original was the wing shape and that I was told had been modified.

Fitted with a 260 hp Lycoming GO-435-C2B geared engine, the Super Chipmunk cost something like £20,000 to complete. It was originally bought in Canada in 1966 and Scholl flew it in the world championships in Moscow that year. Damage to the wings due to a forced landing meant that they had to be rebuilt, and whilst doing so the owner added a retractable undercarriage. He also cut 20 inches off each wing tip, extended the ailerons inboard and sealed the flaps. Another Chipmunk was needed to finish the rest of the work and Scholl rebuilt the fin to a smaller size and increased the rudder area, giving it a very square-cut look. The front cockpit was covered over, the windscreen moved back and a bubble canopy fitted. To complete the transition a glass fibre engine cowl was produced and the propeller is far from the original fitted to the standard Chipmunk.

To many people the Russian aircraft were a great attraction. These three were variants of the Soviet Air Force basic trainer, the Yak-18P and although rather dowdy in appearance did a magnificent job in the hands of the new men's and women's world champions Egorov and Savitskaya. Their support aircraft, a grey painted Antonov AN-2 Colt trundled across the airfield to park in front of the public enclosures during the last day, much to the delight of the camera enthusiasts.

In spite of the fatigue failure of the British registered Zlin G-AWAR a few weeks previous, there were many variants of the basic Trener at Hullavington. All of them doubtless had been checked to find out if there were any cracks in the main spar. Neil Williams flew a borrowed aircraft for his performances and gained a creditable fifth place amongst the champions.

From the pure spectacle point of view there was little to touch



A look of power as a Yak-18PS of the Russian aerobatic team takes off in the rain during the World Aerobatic Championships at Hullavington.



Top: New markings on the Sea King. Seen at the recent RNASLee-on-Solent Air Day this aircraft from No 824 Squadron was one of the first to have the all white squadron badge painted just aft of the cockpit windows. **Centre:** Debut of the McDonnell Douglas DC-10. Right on schedule the first aircraft rolled off the Long Beach production assembly line on July 23. Logotypes of the 12 airlines that have placed orders for the aircraft are painted on the forward part of the fuselage. A total of 214 DC-10s had already been ordered before the first aircraft actually flew. **Above:** Rare, but increasingly frequent visitors to USAF airfields in the UK are the EB-66Es of the 39th TEWS based at Spangdahlem, Germany. This one was photographed at Upper Heyford recently by reader S. G. Richards. The aircraft was serialised 40532 and coded 'BV'.

the American Pitts Special when handled so expertly by veteran aerobatic pilots like Bob Herendeen. This amazingly small aircraft produced the most violent evolutions during its demonstrations which included three rapid flick rolls in succession at very low altitude. I have rarely seen such giddy flying by a pilot who still had perfect control over his aircraft at the end of each giration. Great interest was shown, certainly by the British team, in this aircraft and I would not be surprised to see one or more of these specially built aircraft being registered in Britain before too long.

Bad weather and high winds hampered much of the previous fortnight's competitions. Although the women entrants managed to complete the four sections in the competition, the men were restricted to three on which the final results were judged. Even though these might have been flown, it was doubtful if any other pilot could have caught up with the lead established by the Russians in the individual events.

Eleven nations took part in this year's World championships. The manoeuvres they had to fly were difficult and points were lost for exceeding in either height or distance a small 'box' of sky watched over by observers who took points off the total for violations of the prescribed limits. To arrive at the final results I heard that more than 12,500 individual calculations had to be made by a team of dedicated volunteers who often sat up late preparing the previous day's results.



Wehrmacht Markings

1939-45

GUIDE FOR MODELLERS

by W. J. K. Davies

Part 4: Divisional signs and camouflage

FOLLOWING the first three articles in this series*, a number of readers have written in to ask for the original (1939-40) insignia of the first ten Panzer Divisions (as promised in the first article), and for the insignia of SS-Panzer Divisions, and also to query one or two signs.

It should be pointed out, in response to queries, that a considerable number of insignia changes and modifications were made at various times, either for tactical reasons (eg, rapid painting!) or to confuse enemy informers. Not all of these are certainly known but the biggest was the wholesale change of insignia after the 1939-40 campaigns. Fig 1 shows the insignia officially allocated to the ten Panzer Divisions functioning in 1940; it will be noticed that many of these signs were later re-used by other divisions. 10th Panzer, incidentally, was 'used' as an improvised formation in 1939, mainly for propaganda purposes and 'official' pictures, but was not formally made into an official full-strength formation until the following year.

Variations in Insignia

Of the other main variations pointed out, the most important ones are 11th Panzer and 24th Panzer. Both had clear logical signs, that shown in Fig 2 for 24th Panzer clearly being derived from the original sign of a jumping horse used when the unit was a cavalry division. Both units, so far as possible, preferred the more elaborate signs and used them frequently up till the end. Other variations, examples of which are shown, were minor and usually the results of field painting (line thicknesses, stroke lengths, etc). Panzer Lehr had either of the Gothic 'L's shown, and 26th Panzer had another example of an infantry unit sign being adapted on conversion.

SS Insignia

To complete the insignia picture, typical signs are given for the SS Panzer divisions and some of the better known SS Panzer-Grenadier Divisions. (Fig 3); most others were infantry or

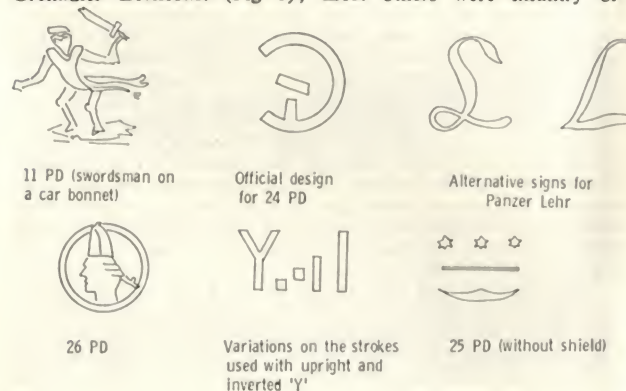


Fig. 2

Some variations on Divisional Insignia



Top: An interesting picture taken about March/April 1943 at the Henschel factory, Kassel, showing a Panther Ausf D in the factory-applied overall dark yellow. Behind it is a new Tiger in the old dark grey, but beyond that is another new Tiger in dark yellow. The overall dark yellow for all armoured vehicles was ordered from February 18, 1943 (Bellona-Warpics). **Above:** A good example of the transitory nature of German AFV camouflage; the Maus prototype displays the original dark yellow over which has been applied random stripes of dark olive green; the crew are seen covering this with either dark grey paint, or more probably ordinary mud, to render the vehicle less conspicuous as the snow melts in the spring thaw of 1945 (Imperial War Museum).

mountain units. As can be seen, the signs were fairly elaborate in some cases and were occasionally simplified in the field.

Notes on Vehicle Camouflage

While not strictly connected with markings, there are always numerous queries from readers about camouflage schemes for Panzer equipment. This is a subject not easy to explain simply, since tactical camouflage schemes varied widely according to the situation, and were frequently changed.

As a general rule, however, both AFVs and 'soft skin' vehicles left the factories or ordnance depots with an overall single base colour. Up to February 1943, this was Panzer Grey for the European sector and a dark yellow—possibly weathering a little darker than the well-known Humbrol shade—for the hotter areas. From this time, the dark yellow base was also applied to armoured vehicles issued for service in both Europe and Italy, where the earth colours made it less obtrusive than grey, but grey, and sometimes 'Dunkel grün'—a dark green almost exactly that of the Humbrol shade—was still seen on the Western front. Inevitably, with old and new colours in use and the fluid state of the war by 1944-45, there were both grey and dark yellow vehicles everywhere.

These colours were, in any case, only basic coats and were designed as such. Units in the field were issued with quantities of a distemper-like paint in various shades of grey, light and dark green, yellow, brown and wine red (bordeau-rôt is the nearest present equivalent), and white for winter work. This paint could thus be changed almost daily if required—though one doubts if it was—and was sprayed or brushed on roughly by unit personnel, leading to a wide variety of patterns. These patterns could take the form of a true mottle, lobe-shaped 'solid' areas of colour, or 'squiggles' of colour. The most commonly mixed colours were dark green and/or white over the yellow base, brown similarly applied, or light green over dark green (as shown on the Airfix Sd Kfz 234 armoured car kit wrapper); oddly enough, from pictorial evidence, Panzer Grey vehicles tended to stay plain grey, sometimes with a mottling of dark green. In Russian and for street fighting elsewhere, overall dark red has been recorded, as camouflage against brickwork. The position, however, is slightly complicated by the fact that, par-

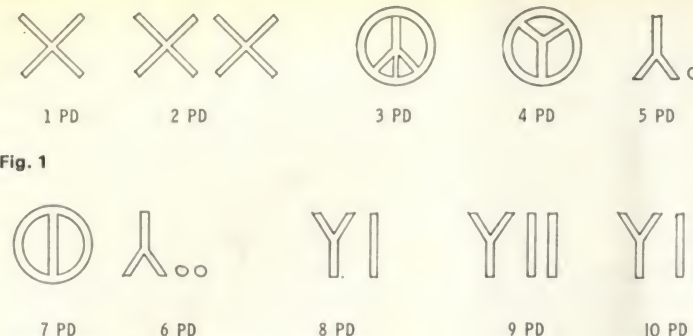


Fig. 1

Above: The original insignia for the first ten panzer divisions, 1939-40. **Above, right:** The most common camouflage scheme from 1943 was simply red-brown applied in a lightly sprayed mottle over the basic dark yellow, here seen on a Jagdpanther. **Right:** An exotic application of red-brown and dark olive green patches over the basic dark yellow, the whole lot speckled in yellow and green. This Hetzer was captured in wooded country in the Vosges in November 1944 and is obviously painted to merge with the dappled sunlight in autumnal woods (US Official). **Below:** Another Hetzer with the simple red-brown mottle over dark yellow, displaying typical rear positioning for the divisional sign when carried.

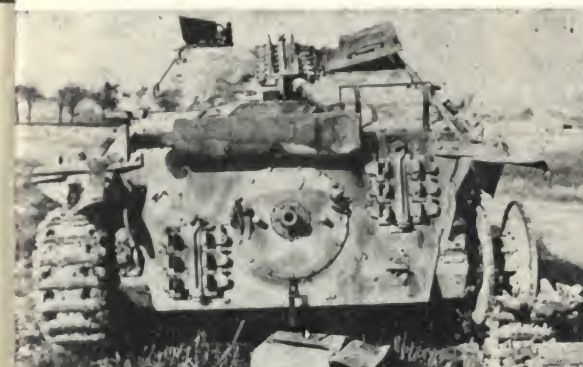


Fig. 3

MAIN SS PANZER & PANZER GRENADIER DIVISIONS. (NB 12 SS Hitler Jugend used a stylised 'HJ' where they used any signs at all)

Above: Two Panzer IVs in Russia, 1944. Nearest has a 'crazy paving' pattern of either dark olive green or red-brown over the basic dark yellow while the vehicle beyond has the more usual mottle finish.

ticularly in Russia where infantrymen with sticky bombs were a real threat, AFVs were often coated with 'Zimmerit' anti-magnetic paste which has a neutral grey tint. Vehicles wearing this can be recognised by their slightly 'corrugated' appearance since the stuff was applied with a ridged spreader rather like the tools used for applying glue to floors being tiled. In 1944 dark grey made a wider appearance, especially on heavy tanks like the Tiger and King Tiger, it is thought to render them less conspicuous from the air against the threat of marauding rocket-armed Allied fighters.

'Soft skin' vehicles and guns, apart from appearing in dark grey (or yellow in North Africa) were also commonly painted dark earth overall, a shade matching closely the Humbrol colour. A 37 mm anti-tank gun so painted is displayed in the Imperial War Museum. This establishment also has on display a Waffenträger based on the Pz Kw IV which admirably demonstrates one form of random 'mottle' application of a colour (dark green in this case) over the basic dark yellow of the vehicle.



A StuG III in Russia, July 1943, in the basic dark yellow overall colour with camouflage patches applied in both red-brown and light green. Ideal shades for these colours are available to modellers in the Humbrol Authentic Camouflage range (Imperial War Museum).

*Previous articles in this series appeared in the January, February, and May issues, all still available as back numbers for anyone who missed them.



Successful sailing of the Mayflower demands the addition of a substantial keel made of tin to prevent leeway. It is here shown affixed by the method demonstrated in sketch C. Note in this and the small picture (right) the braces with wire hooks affixed to the hull side.

Sailing the 'Mayflower'

Bert Lamkin adapts the kit for floating

MAKING a sailing version of the new Airfix *Mayflower* poses several problems not encountered with kits of later ships. The pronounced tumble home of the hull means the deck has to be fitted when cementing the sides together. So any ballasting needed has to be installed after the hull is complete, in view of this and one or two other points, it is suggested this article is read through before commencing assembly.

The first job is to remove the main hatch grating on part 4, cut carefully inside the frame. I used a fretsaw with a fine blade for this, holding the deck in the left hand and gently sawing with the right. A touch with a file will clean up the inside of the frame, and strips of plasticard underneath to overlap the opening will support the grating later.

It is just as well to paint the deck at this stage, that is parts 4 and 10. I used a light cream to assimilate the scrubbed effect. Incidentally it's worthwhile to wash the parts in warm soapy water to get rid of greasy finger marks, etc, before painting.

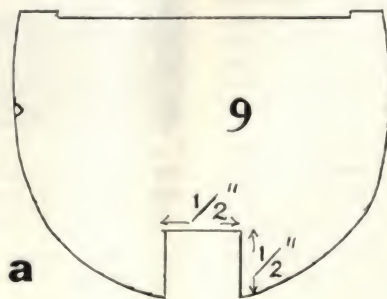
While the decks are drying, parts 1 to 7 and 12 to 14 can also be coloured, it would appear from various illustrations that these should be a light brown with the top rails picked out in white. With the decks thoroughly dry comes one of the difficult exercises; this means cementing parts 4 and 10 to 8 making sure they are located correctly. Next take part 9 and cut away a piece as shown in sketch A. This is to allow the ballast to get behind the bulkhead.

At this point I will digress somewhat, I have worked on the assumption with these ships, that being scale models they

should sail with the hull ballasted as in the prototype, up to now this has been the case. So the *Mayflower* carries ballast, but on carrying out 'sea trials', she had to be fitted with a keel, without this she made more leeway than foreway.

Reverting to part 9, you will need to file recesses in the top edge to accommodate the grating support strips. Part 9 can then be cemented into position on 8, there is a right way, a small nick locates with a rib on part 8. With 4, 8, 9 and 10 more or less set, attach part 17. There are four joins to make so one must be fairly quick with a liberal amount of cement along the keel joint. Humbrol liquid cement is the thing for all the above cementing. Hold the hull together with elastic bands and bulldog clips and let it set completely.

At this stage assemble the stand, parts 18 to 20. This can then be used to cradle the boat during the rest of the building, plus various other pieces that will be difficult to get at later can be painted. If as I do, you run two jobs at the same time, this will make sure



the parts are set and dry before proceeding. I often leave a part to set overnight.

Returning to the hull, part 15 can be fitted, but before doing so brush a little extra cement along inside the keel to guard against leaks. Now fit the stern, this must also be watertight. There is invariably a slight discrepancy in plastic kits, so some Humbrol body putty will fill in any cracks, you may need to file the sides flush with the stern later.

Now parts 1 to 14 can be fitted and when set, we can think about ballasting. It needs about 5 ozs to bring the model to the waterline at the lower moulded wale amidships. For ballast, lead and Polyfilla is used, the lead in the form of shot or small pieces about the size of match heads, such as fishing weights. The mixture should be wet enough to settle and an old teaspoon is used to pass it through the main hatch into the hull. Shake the boat to get the ballast to find its own level both sides of the bulkhead.

A bowl of water handy will enable you to check for trim. When an even keel at the right depth is achieved lift her gently back on to the stand keeping



the ship level and upright, and place on one side for the ballast to dry. This will take some time—but if you rush things you will have a lopsided boat, difficult to correct.

The masts can now be assembled, but first drill a small hole through each mast part 92, 102 and 112 using a No 70 drill at the point where the spars 93, 103 and 113 are located. The locations lugs on these spars are filed away, they will be fitted later.

Assemble the masts as per the instructions, this will also include parts 87 and 98 and 107 and 108. The upper fore and upper main shrouds can be fitted when the masts are set. Incidentally I attach the top ends first, a touch of cement to hold them in place and a binding of cotton round the mast to anchor them. The lower ends can then be pulled tight and attached to the respective dead eyes again using cotton to hold them firm.

The parts of the anchors and rudder can be cemented together at this stage and left to set. I originally intended the rudder to be operational and made it pivot on the stern post but found later that it was unnecessary.

Now we come to the sails; with some co-operation from the domestic authorities I was able to acquire some ladies'

handkerchiefs, these are of fine lawn and seemed to be just the job. The great thing is to find something thin enough to be proportional to the size of these sails. The kit's plastic ones were used as a guide for size and the cut edges were smeared with cement to stop them fraying. Next a ball point pen was used to draw the lines representing the seams and the sail cemented to the appropriate yard, this being reinforced by sewing with cotton. Cotton was also threaded through the lower edge to form sheets about 9 to 12 inches long.

The sails are also fitted with clew lines. These are lengths of cotton attached to the lower corners of the sails. These clew lines will in due course pass over a fulcrum near the yard centre and down to a rail or cleat on deck.

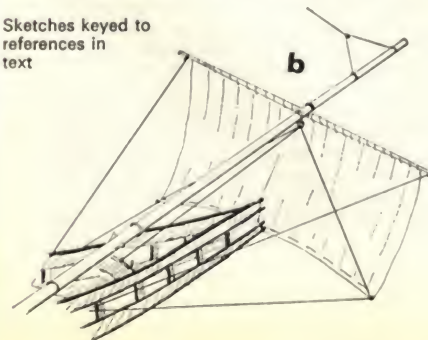
By the time the sails are complete and the ship's boats are assembled and painted, the ballast in the hull should have dried—check with a pencil point. With this firm the hull can be completed, firstly by painting in its various colours. One can follow the box lid for this, although I copied the replica that was built in 1957. Then the Beak and all the fittings can be cemented into position including the masts.

The last stage is the rigging. Sailing ships have a lot in common with regard to this, but the bigger the boat the more complicated the cordage. Fortunately the earlier vessels like the *Mayflower* were simpler and in this particular sailing version the aim is to keep it very simple.

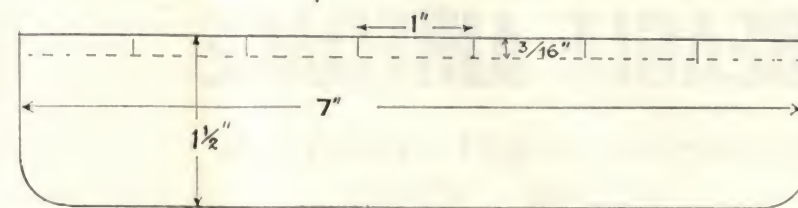
Starting with standing rigging, the main shrouds are fitted in the same way as described above and the various stays attached. Shrouds and stays are supports for the masts so the diagram on page 8 of the instructions will help. A certain amount of care is needed here or you will find the mast bending under undue strain. At the same time, however, the standing rigging should be taut.

Now we come to the sails and running rigging. With this I have taken some liberties. So starting with the bowsprit sail, the yard is attached in position with cotton but kept free enough to swing. Actually I drilled through the small moulded lug and tied through the hole. Cotton is now tied to one end of the yard, taken through the last opening in the side of the beak, round the bowsprit and through the other side and then tied to the opposite end of the yard. The reason for going once round the bowsprit is to give some resistance, so the

Sketches keyed to references in text



Right: A close view of the rigging showing how any individual sail can be partly furled by hauling on the clewlines, a useful facility for reducing sail partially in strong winds. The clewlines can be clearly seen behind the topsail.



yard will stay to port or starboard when set.

In lieu of a block, which is non-existent in this size, a piece of thin wire with a loop at one end is attached to the bowsprit. This provides the fulcrum for the clew lines which are taken through the loop and made off on one of the marlin spikes on the beak. Bunt lines can also be added if so desired, these are lengths of cotton tied to the bowsprit near the yard, taken down the front of the sail through its lower edge up through the wire loop and again made fast on the beak.

By pulling on these lines one can lash the sail up to the yard. Finally the sheets from the lower corners of the spritsail are taken back to the last, or first if you are looking from the deck, post on the beakside and tied with a slip knot for adjustment. Sketch B shows the general idea which applies to all the square sails.

Dealing next with the fore topsail, the braces on the yard are taken back and once round the main topmast just below the crosstree. A single piece of cotton is used to go from one end of the yard to the other. This time the lower corners of the sail are equipped with small wire loops to slip over the ends of the fore-sail yard. They should be just tight enough to stay put. The clew lines go over the crosstree and tied to the aft rail of the forecastle.

The main topsail is treated in the same way. This time the yard braces go round the mizzen mast just above the crosstree. With the fore, main and mizzen sails provision is made to lower the yards to the deck as in the prototype, but a simpler method is used.

The holes previously drilled in the masts have a line from the middle of the yard passed through and tied to a convenient spot on the deck, thus holding the yards in position but allowing them to swing. I used a small wire hook which slips into the slot on parts 2, 4, and 11, so it is quite easy to raise or lower the yard. The clew lines are again taken to the spar centre, this time through the small slot that is moulded on

the yard, and down to a cleat (parts 29 to 32). Just in case you have forgotten, these clew lines pull up the lower corners and so partly furl the sail. The foremast yard brace is taken once round the main mast low down to miss the sail, but the main yard one is passed under the side rail across the deck just behind the mizzen mast under the opposite rail and so the yard end. Both fore and main sail sheets are fitted with small hooks which engage with parts 83 and 84 and 61 and 64 respectively.

The mizzen sail being a 'fore and aft' sail is rigged differently, the forward end of the spar and the sail are attached by loose ties of cotton to the rail either side of the belfry, a stay from the aft end of the spar is made off at the crosstree on the mainmast. Finally what is termed a sheet, but in this case the end of the cotton that was threaded through the sail, is tied with a slip knot to part 49.

At this stage I fitted the rudder and anchors and gave the ship her first launching, and discovered after several adjustments that she was somewhat top heavy and made a lot of leeway. This was obviously a case of scaled size but not scaled effect so the quick answer was to fit an external keel. This is shown in sketch C and was made of tin and attached to the hull by two 10BA bolts. This transformed the ship immediately and she now sails very effectively.

Finally, a word on sailing these square riggers; on the original the crew was kept quite busy trimming sails, etc. To maintain a steady course and tacking was not the relatively simple manoeuvre performed with a modern dinghy. So when you sail the model *Mayflower* you must trim for the desired course and hope the wind does not veer or drop before she makes land. The mizzen sail does duty as a rudder, so the adjustment of the 'sheet' is fairly critical hence the slipknot. You may find with a light and variable wind it is better to have the braces free, there is quite a lot to be learnt in sailing model windjammers. It is possible that a weighted external keel could replace the internal ballast, for instance, if you want to experiment.



BEAGLE AIREDALE

Conversion for light aircraft fans
by Derek L. Whiting

CIVIL aircraft do not attract the same following among modellers as military types, or so it would seem from the limited range of 1:72 scale civil types available in kit form. So if, like me, you fancy civilian types of aircraft, this conversion is for you.

The Beagle Airedale is virtually a real-life conversion, featuring as it does many parts and jigs, etc, common to the Auster family, but very much updated. The result is, I think you will agree, a very attractive aircraft model in the modern style. The Airfix Auster forms the basis of the conversion, naturally, and it is not too difficult, though a little previous converting experience is desirable.

Start by cementing the fuselage halves together and allow to dry. Then decide on which material you wish to use for the necessary new engine cowl. Cut off the existing cowl, and if you are using balsa wood, cut a suitably sized block and plug and cement it to the front end of the fuselage. When thoroughly dry, carve and sand it to shape, following the plan. Next hollow out the two air intakes. As an alternative to wood, however, you can use the plastic card and Brummer Stopping method, as on my model, and I strongly commend you to have a go with this if the technique is new to you. Proceed as follows:

Cut off the existing cowl and build up a simple plastic card 'box' on the nose, with front bulkhead shaped as in the drawing and cemented at the extreme front. Fill this box with lead shot or similar weights (such as are sold in fishing stores). Then smear cement over the plastic card surfaces and cover the entire cowl area with Brummer Stopping. In the deeper areas it is better to build up the Stopping in layers, allowing each application to dry out before applying the next.

The air intakes can be formed in two ways; the first method is to 'sculpt' out the hollows in the cowl when the Stopping has dried out; the second is to form the outline shape of intakes using a thin strip of 10 thou plastic card cemented to the front bulkhead, together with a short length of propeller shaft. The Stopping is then spread over the front area and when dry, sanded



View of the completed model prior to painting shows the extensive changes necessary for the rear fuselage top.

to shape. The intakes, of course, are already formed and the prop shaft is then in place. Finally, build up the air intake fairing under the cowl and then add the exhaust pipe.

Next the instrument panel and console is made from 10 thou plastic card to the pattern shown. Cement it in place and then fit and make new floor and seats. Finally, paint the cockpit interior.

The top of the canopy (part 11) at the rear is now carefully cut off following the side outline. The wing mount/cockpit top (part 12) is next dealt with as follows: cut out the centre area which includes the blister, and then join together again with a piece of 40 thou plastic card, the same size as the piece removed. A razor saw is the best instrument for cutting the transparency, but cut very carefully to avoid splitting. Cut two pieces of clear styrene (from the display stand pillar) and cement one piece on either side of the plastic card, ie, on top of the original cabin roof. The gap in the centre is now fitted with plastic card and the whole assembly is sanded to conform with the existing cabin top shape. Restore the transparent finish by polishing with toothpaste and a cloth. Cement top to canopy and, when dry, cement to fuselage and build up top decking with two layers of 40 thou plastic, leaving a slot at the tail to take the new tailplane. File and sand to shape, then cement the cut-off piece of canopy back in place with the rear edge flush with the top of



Above: Fuselage prior to addition of the wings, clearly showing undercarriage arrangement and new tail. Right: An underside view of the completed model shows modified wings, undercarriage and tail. Head of page: General view of finished conversion.

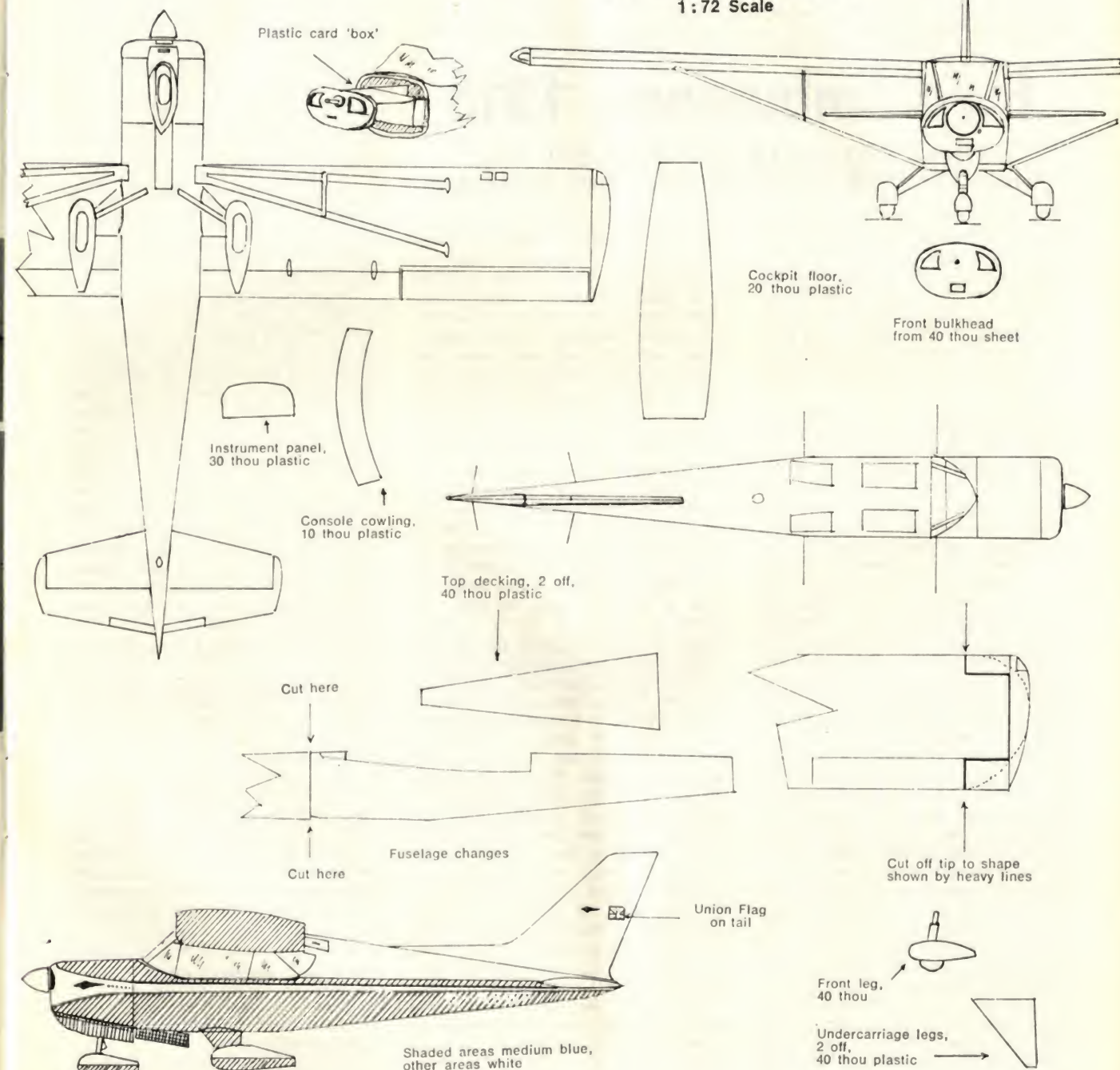


the new top decking. Make the new tailplane and fin and rudder from 40 thou plastic card, taking shape and size from the plan, and cement in place. Lastly, fill the gaps in the sides of the rear cockpit with Stopping and body putty and, when dry, sand flush with the sides.

Now to the undercarriage. Cut the main undercarriage legs from 40 thou plastic and sand to streamlined section. Cement in place and, when dry, the spreader bar (part 21), with the central rectangle cut off, is cemented in place. Note that this is angled forwards at nearly the same angle as the front of the undercarriage legs. Now file the kit wheels down to the correct size and cement in place. Cut two pieces of 10 thou plastic card to the outline shape of the spats and cement these to the outside faces of the wheels. When dry, smear a little cement over the spat outline and then build up a layer of Brummer Stopping over the spats. Sand to shape when dry, if necessary applying more Stopping and repeating the process. The front wheel assembly can be made in separate parts, or all in one. If the latter method is used, cut the complete outline shape from 40 thou plastic card, cutting oversize and filing down to finished

Continued on page 67
AIRFIX magazine

Beagle Airedale



October, 1970



This very simple conversion to the earliest form of Model T Ambulance, 1915 vin age, is an ideal first project for beginners to kit converting and provides also a good vehicle for model soldier fans. Conversion is on left in each of the pictures.

Ford Ambulance, 1915

**SIMPLE 1:32 SCALE CONVERSION FOR
54 mm SOLDIER FANS, BY MICHAEL ADDRESS**

I CAME across pictures of a Ford T ambulance in the October 1963 issue of *Old Motor*. It is believed to be the earliest Ford ambulance in the 1914-18 war and is said to have been presented to the Red Cross by Henry Ford himself. This model would be a good companion vehicle to the Airfix 1914 'Old Bill Bus', or other military types.

Begin construction by cementing together the halves of the body (Parts 1 and 2). Then add the front seat (Part 22). When the glue has set firmly, cut off the rear part of the body. Using a razor saw, make a cut vertically down through each body side immediately behind the back of the front seat. Cut a piece of 15 thou thick plastic card to fit across these cut edges behind the seat. Make this piece slightly larger than necessary, cement in place and then trim off the excess using a sharp modelling knife, finishing off with a fine file and sandpaper to give a smooth edge. At this stage remove the raised ridges on the body sides using these same tools.

The rear mudguards have to be removed from the chassis base (Part 20). With the razor saw, cut across each running board immediately in front of the rear mudguard and extend the cut inward as far as the thicker central rectangle of the chassis base. Then cut forwards from the rear edge of the chassis base on each side alongside the thicker section to meet the previous cuts so removing the rear mudguards. The rear number plate should also be cut off at this time.

Now glue the body to the chassis base after cutting away a little from the lower edge of the piece cemented across the back of the body, so as to clear the thicker central part of the

chassis base. The windscreen unit (Part 17) has two shallow circular depressed areas in its front surface from the moulding and these should be filled with plastic body filler. Apply rather more filler than necessary to allow for any slight shrinkage during setting. When dry, file and sand away the excess to leave a smooth surface. Then fix this part in position. Some filler may be required at the join between the windscreen unit and chassis base. The toolbox (Part 28) can be added to the running board at this stage.

I painted the body so far assembled using black throughout. The front and rear axles (Parts 7 and 8) can also be painted now and then cemented to the chassis. The wheels are painted black and fitted on to the axles. They are held in place by fixing the hub caps (Parts 9, 10, 11 and 12) in position. The next step is to build up the rear bodywork. Cut two sides and one back to the patterns shown in Fig 1, from 15 thou thick plastic card. Scribe at 3 mm intervals to represent planking. A 1 mm wide strip of the same material is cemented along the lower edge of each piece. A rectangular floor 26 mm by 40 mm is cut from 60 thou thick plastic card. Cement this floor on top of the rear part of the chassis base (Part 20) so that its front edge is against the back of the body. Now cement the sides to this floor so that the upper edges of the sides are 7½ mm below the top edges of the sides of the body (that is the level of the top edges of the seat arms, but *not* of the seat back). You will need to cut away a small piece from the lower front corner of each side to fit the chassis base where the cuts were made in front of the rear mudguards. Then glue the back in place.

On top of this box-like structure is fixed a base piece of 15 thou thick plastic card to the shape and dimensions shown in Fig 2. Beneath the rear edge of this piece glue a length of 1/16 inch square stripwood (balsa or hardwood). At the junction of each side with the back of the box structure is fitted a piece of 1/16 inch by 1/32 inch stripwood and between the lower end of each of these pieces and the undersurface of the strip along the rear edge of the base piece glue a length of 3/64 inch square stripwood, bevelling the ends as necessary for a neat fit. (These dimensions need not be exactly as I have quoted so long as they are approximately the same.) Fit a piece of 1/16 inch square stripwood beneath the front edge of the base piece on each side and then add a strip of 1 mm wide 15 thou thick plastic card beneath each side edge of the base piece.

The cover support consists of two uprights of 1/16 inch square stripwood 40 mm long and a horizontal beam of the same material 61 mm in length. Fix the uprights in position at the centres of the front and rear edges of the base piece, on its top surface. Then cement the longer strip to their top ends; note that it should project ½ mm beyond these at front and back.

These parts can now all be painted; I used Humbrol Authentic Colour Dark Earth HB 2. This paint dries quickly to a very nice, completely matt finish. I used good quality typing paper to represent the canvas cover. Cut an oversize piece, 12 cm by 7 cm, and then make a fold across the centre of the 12 cm length using a piece of 1 mm diameter dowel to bend the paper. Then put the cover in place and mark it out very slightly oversize (to allow for any minor errors). Next remove it and cut it down to the marked dimensions.

Make a small mark at the centre of the outer surface of each half of the cover, and draw a circle of 16 mm diameter around each centre point. Then paint the entire inner surfaces and the whole of the outer surfaces dark earth, apart from the two circles which should be left white. A red cross is then painted within each circle. This simplifies the painting as it is important that the crosses be neat. It is best to leave the fixing of the cover in position until nearer the end of the construction as it might otherwise be damaged by handling.

As I had already built the 1910 Ford Model T kit in its unmodified form

using the 'F 1910' number plates, I decided to alter the number to 'OF 191' for this model by cutting the '0' from the back of the number and putting it at the front. One number can be glued to the space provided for it on the front axle. Cement the other on to a slightly oversize piece of 15 thou thick plastic card, then trim to the correct size. Paint black the back and edges of the plastic card and then cement the number plate in the position shown in one of the photographs of the finished model.

The radiator (Part 21) should be fitted next. With all the brass parts I like to use an undercoat of matt yellow paint (I use Floquil) before applying the brass or gold final coat. This makes it easier to cover the red plastic and gives a better final appearance. The starting handle is painted and added now; although the kit instructions list this handle as brass, on the photo of the real ambulance it looks as if it is black. The headlamps (Parts 18 and 19) and sidelamps (Parts 15 and 16), steering column (Part 14) and steering wheel (Part 13), handbrake (Part 26), acetylene canister (Part 27) and horn (Part 30) can now be fitted to the model.

I cut pieces of transparent plastic material to fit the windscreen and to fit into the headlamps and sidelamps; a little time and care were required to get an accurate fit but it really gives an improvement in the appearance. A similar 'glass' can be fitted to the rear lamp (Part 25) after painting red the surface to which the plastic will be cemented. The rear lamp is fixed to the rear of the bodywork just to the



right of the rear number plate (see photo). The cover can now be fitted. Cement it to the central supporting bar and then glue it to the edge of the base piece on each side. Do not have the cover taut but allow a little sag on each side as you would have with a canvas cover. When the glue has set hard, trim off any excess paper using a pair of fine scissors.

If you wish to add some extra details, two stretchers could easily be made from stripwood and paper

(again painted with the dark earth colour). A final touch would be the addition of a driver, a nurse, and a patient. The patient could be any male standing or prostrate figure, for example the officer from the Airfix Old Bill Bus kit, or one of the Airfix Motor Racing figures (as only his head would be seen). Lie him on one of the stretchers and cover him with a blanket (painted paper). Cut away the hat, if any, and apply a bandage (paper again) around his head.

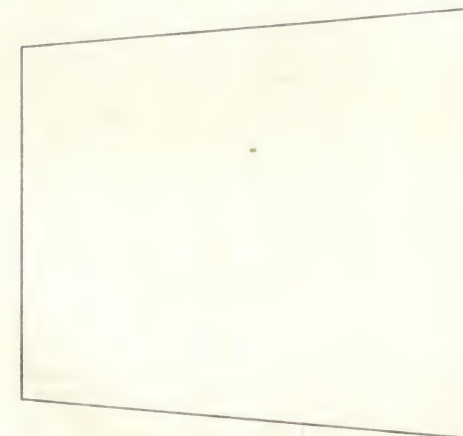


Fig 2

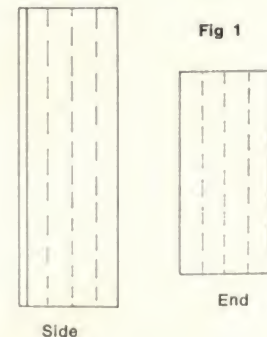


Fig 1

Full-size drawings keyed to references in text

Beagle Airdale—from page 64

dimensions. Brummer Stopping is again used to get the correct shape. The undercarriage leg is, of course, filed to circular section and finally the compression control 'V' strut is bent from a piece of heat-stretched sprue and cemented in place.

Moving to the propeller, slim the blades to give a straight-sided shape, and then, after smearing the hubs with cement, build up a blob of Stopping to form the new larger spinner, though you may already have a suitable spinner in your spares box. A new exhaust pipe is also needed, made up from heat-stretched sprue.

The wings are quite straightforward if the drawings are followed. Build up new tips using laminations of plastic card. Fill any gaps with stopping and sand to follow the existing airfoil shape. Etch the aileron outlines, using the point of a needle or a knife blade and a straight edge. Do not cement wings in place yet.

Painting can commence now. I chose the finish of the West Essex Flying Club as featured in full colour in Kenneth Munson's *Private Aircraft* (Blandford Press). This makes an ideal reference. Start by painting the white areas, using gloss enamel with either matt white or Humbrol flatting agent added to give a semi-matt finish. When dry, paint in the blue areas, again using a semi-matt mix. Do this all freehand as neatly as you can—I say this

advisedly here, for there is a danger of pulling off the Stopping if Sellotape is used for masking. All the straight edges can be trued up if necessary, using Blick Dryprint white transfer striping. The curved edges, however, are dependent on your own hand. When all the paint is set hard, the registration letters can be applied from white Modellers' Blick. The leading edges of the wings and tailplanes are painted blue.

Now cement the wings in place, followed by the struts. To ensure a good joint, carefully scrape away the paint from the strut anchorage points. The struts are painted white and the propeller is grey with yellow tips. A warning beacon is needed on the fuselage top and I used a piece of transparent red gelatine cut from a Ronsonol petrol capsule. It is fitted in place with a touch of contact adhesive.

Small Union Flags on the rudder are from the Airfix/MRRC motor racing transfer sheet but I later overpainted the blue areas to match the blue shade on the rest of the model.

Since I completed this model, Airfix have released the Cessna 0-2, and it would appear quite feasible to use the cowlings, propeller, spinner, seats, and instrument panel, plus nosewheel leg, to speed up the conversion. Minimal changes would be necessary to fit them to the Airedale and the conversion work would, I think, be greatly simplified.

SEVEN WEEK WAR



by ROBERT C. GIBSON

Part 5: Artillery and Support Arms

THE artillery arm in 1866 was in the process of changing from smooth-bore to rifled cannon, the Austrians being ahead of all others, fielding over 75 per cent rifled cannon in Bohemia. The main types were the 4- and 8-pounders, which in OO/HO scale can be produced by cutting 4 or 6 mm from the trail of the Civil War 'Napoleon' gun, and removing the centre from the axle to 4 mm from the end. The bronze barrel can be made by removing 4 mm from the muzzle (8-pounder) or 6 mm (4-pounder) and wrapping one layer of notepaper round the muzzle and pivoting point (1 mm and 3 mm respectively). The wheels are retained for the 8-pounder; the 4-pounder uses the small wheels from the Wagon Train wagon. Colour is canary yellow with blackened iron fittings. The limber needs the removal of the side-rails, which should be replaced by a side-and-back rail. The team was pulled by four or six horses.

Prussia had two modern field pieces in 1866, of the same calibre as the Austrian. These were also used by the Saxon Army. A solid trail was used, 5 mm or 7 mm shorter than the 'Napoleon', dependent on calibre. Barrels were 4 or 6 mm shorter than the 'Napoleon', and should be bound in much the same way as the Austrian cannon. Wheels are retained for the 8-pounder, and Wagon Train wheels are used for the 4-pounder. Prussian cannon were light grey-blue, as were limbers (similar to Austrian); barrels were iron. Saxon cannon were green, or unvarnished.

More than one-third of Prussian artillery, however, consisted of the old 12-pounder, which was a close 'twin' of the 'Napoleon', as found in the Civil War Artillery Set. Many other states used similar cannon, often with strengthened barrels and modern solid trail carriages.

Artillery Uniform

Prussian Artillery wore dark blue tunics, with black collar and cuffs, piped red and with red straps. Foot Artillery wore uniforms of Line Infantry cut; Horse Artillery wore dragoon style. Equipment and trousers followed that of infantry or dragoons; webbing was white. The infantry helmet was worn with a

'ball' on top and there were the same Guard/Line distinctions as the Infantry. Guard Artillery wore white 'litzen'. All had brass buttons. Horse furniture was as for dragoons.

Austria made no distinction between Foot and Horse Artillery; all wore the covered shako, a brown tunic piped in red with red collar, cuffs and straps, and white webbing. The white-piped sky blue trousers were infantry or cavalry pattern as appropriate. Horse furniture was as for Uhlans.

Saxon Foot and Horse Artillery wore the same tunic, dark green piped red with red collar, cuffs and straps, and yellow buttons. Foot Artillery wore the peaked field-cap, dark green with a red band; Horse Artillery wore the Bavarian infantry/chevauleger black-crested helmet, and grey, red-piped booted overalls: the Foot artillerymen wore their grey, red-piped trousers tucked into black boots.

Bavarian Artillery wore Prussian colours and tunic with brass epaulettes. Trousers or overalls were blue, piped red. The piping was broader for Horse. Headgear was the crested helmet, and webbing was white.

Württemberg Artillery wore Infantry or Cavalry uniform in 'Prussian' colours (tunic and trousers). The dark-blue kepi had a black band, piped red. Baden artillery (Foot only) followed Prussian practice but wore field caps. Hesse-Darmstadt combined Prussian collar colours with infantry uniforms, but with a spiked helmet. All had white webbing.

Mecklenburg and Oldenburg wore Prussian uniform with 'Russian' kepis (dark blue, black band, piping red). Hannoverian Artillery wore 'British' colours, dark blue with red collar, cuffs, straps, the Austrian shako for Foot, the 1815-style RHA helmet for Horse Artillery and white 'litzen' for both.

Hesse-Cassel (Horse and Foot) followed



Above: Uniform details for (1) Prussian Horse Artillery. (2) Austrian Artillery. (3) Hannoverian Horse Artillery. (4) Mecklenburg Suttleress. (5) Prussian General wearing a 'litewka'. Colours and other details are given in text.

Prussian practice closely, with different helmet emblems. Nassau Artillery wore infantry uniforms, with carmine in place of red facings.

Pioneers, Engineers, etc

Prussia: Pioneers wore the same uniform as the Foot Artillery, with black equipment and silver buttons. Train soldiers, who operated supplies and wagons, wore Horse Artillery uniform with light blue facings instead of black and red. Buttons were also brass. Railway sections wore Guard Pioneer uniform (ie, with white 'litzen') and 'E' above a roman numeral on shoulder straps. Telegraph sections were similar with a 'T' replacing the 'E'.

Austria: Pioneers wore Jaeger uniform, with black-peaked grey kepis. Pontooniers wore dark blue tunics with red facings and silver buttons, trousers and shako as infantry. Miners had grey tunics with maroon facings and brass buttons. Sappers had dark blue tunics with maroon facings and brass buttons, both with infantry trousers and shako. All webbing was black.

Bavaria: As Foot Artillery, but with silver buttons.

Saxony: As Foot Artillery, again with silver buttons. Württemberg Pioneers wore Artillery uniform with brass buttons; Baden Pioneers wore Foot Artillery uniform with silver buttons. Hesse-Darmstadt distinguished Pioneers from Infantry by carmine facings.

Hannover followed their artillery uniform pattern with white-metal buttons, as did Hesse-Cassel.

Wagons

The large two-wheeled wagon was very popular in South Germany and Austria, and can be produced by removing the 'pole' from the Airfix Wagon Train wagon front axle unit and relocating this unit after trimming in the centre of the underbody, so that the springs rest level with the bottom. The rear wheels are fitted, and the pole fitted under the driver's box. Two or four horses can be used. Wagons were not usually painted, except for, perhaps, a regimental number and 'double-eagle' in black on the tilt.

Below, left to right: Austrian artillery officer, mounted. Prussian stretcher bearers (from 1914 German), Austrian 8 pdr gun team. These artillery models are simple conversions from the Airfix American Civil War Artillery set.



North Germans used four-wheel wagons. Similar to the Airfix one, but with equal size wheels—four Artillery wheels can be used, after modification to axles and front axle unit.

Ambulances

The normal supply wagons tended to be used with square Red Cross flags at the driver's side on a short pole. Stretcher-bearers, usually Train Soldiers, wore white Red Cross armbands, for the first time in war.

General Staff

Prussian Generals and officers of the Staff wore dark blue tunics with scarlet collar, cuffs and epaulette fields (epaulettes and buttons were brass). Waist belts and sword-slings were gold or white. Trousers were grey with a broad red stripe either side of the seams. Headgear officially was the Guard helmet, but the soft peaked-pillbox-style cap was also worn, dark blue with a red band. Other 'personal' deviations included the 'litewka', a short overcoat in dark blue with red collar and broad cuffs, the latter with white upper piping; the long grey overcoat with red facings was also worn. Horse furniture was dark blue, edged red, with a Guard Star in the rear corner.

Most other German states followed the



camp wore dark green in place of white, and Staff officers were similar, but with black, red piped collar, and cuffs. Both wore dark grey trousers with red, or black (red-edged) stripes.



Prussian lead with national variation in headgear, but there were a few exceptions like Württemberg, who wore black in place of dark blue, and Bavaria's light blue with silver in place of brass.

Austrian Generals wore either 'German' or 'Hungarian' styles, ie, the dress was either Hussar style, complete with busby and pelisse ('Hungarian'), or tunic and trousers and shako (or cocked hat) ('German'). Tunic or pelisse and dolman were white, facings red, braid gold. Trousers were red (piped yellow for 'Hungarians'). Fur was dark brown on the busby and pelisse; the bag was red. Horse furniture was red edged gold. The sash was gold, edged black. Aides-de-



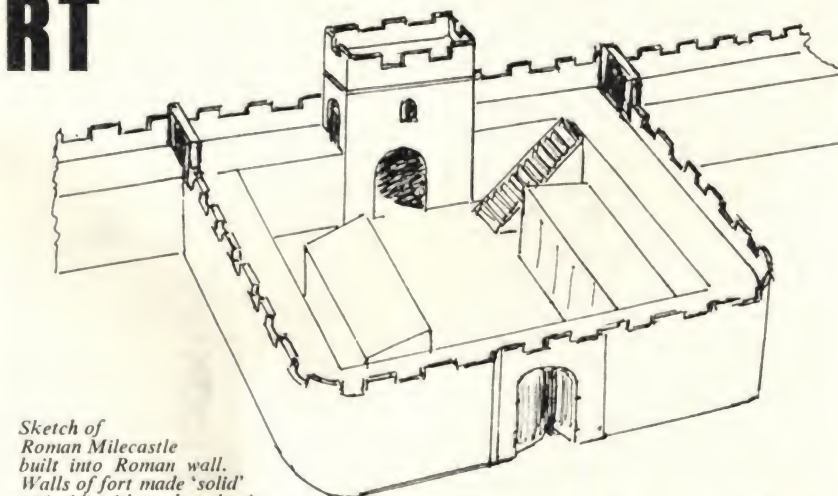
Top, left: Bavarian Horse artillery team. Top, right: Saxon 4 pdr and limber, Prussian general in cap, and Saxon artilleryman. Artillery pieces are made from the Amer can Civil War Artillery set as described in text. Above: Three Austrian artillerymen adapted from American Civil War infantry, plus a Prussian infantry officer with sword. Top of page: Austrian two wheel wagon

ROMAN FORT

Some ideas for wargamers by Bob O'Brien

UNDER the title 'Caesar's Gate', Airfix have produced a Roman Fort, complete with a set of Roman infantry and Ancient Britons, the fort being the latest of the snap together sets in this steadily increasing range. (The fort is also available separately). The model itself is an extremely good representation of a milecastle of the type built on Hadrian's Wall. It measures 9 inches x 6 inches, and while it has been reduced a little in 'scale' size, it follows the basic proportions of the original very well. To get within the size required for production purposes the walkways and fighting platforms have been shown as timber constructions whereas in actuality the walls of the fort would be of sufficient thickness to be paved over at the top with adequate room for fighting.

For the purists who wish to be completely correct it is an easy matter to fit card or plastic sections on the inside so as to give the impression of the proper walling. The sketch will show this, as well as the way the milecastle is built into the Wall proper. This sketch, by the way, is inspired by an invaluable little booklet *Hadrian's Wall*, published by HM Station-



Sketch of Roman Milecastle built into Roman wall. Walls of fort made 'solid' on inside with card or plastic sheet. The actual walls outside the fort can be either built up in the same way or made from wood 2 x 4 inches with a parapet of 1/2 inch wood to match the fort parapet. Cover with matching model railway building paper.

ery Office at 4s 6d, and everyone who has any interest in the activities of the Roman Army in guarding what was its 'North West Frontier' should have this book. It is well illustrated, with plans and models.

The Airfix Fort is rectangular, with a tower in one side, and opening gates at opposite sides, with internal buildings for the garrison. These forts usually held 30 to 50 men, and these would be auxiliaries who could be from almost any part of the Roman Empire. For use on the wargames

table one must do one of two things—either cheat a little, and assume that an isolated fort has been built to cover, say a river crossing, or else build up sections of the Wall itself, and join them on to the fort, as the sketch shows. It would be extremely unlikely for a fort of this small size to be built on its own, but if such a thing was done then it would invariably be surrounded by a ditch and bank, and/or concealed pits arranged so as to break up a

Continued on page 94



STAGHOUND ARMoured CAR

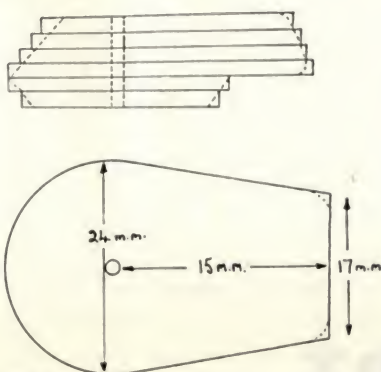
THE Staghound 1 (T17E1) developed and produced in America was in service with the British, Canadian and New Zealand armoured units from 1943 and was used a good deal in Italy and later in the European campaign. With a length of 18 ft, width of 8 ft 10 inches and height of 7 ft 9 inches it was little short of the size of a Sherman tank and makes up into an impressive model. This size does in fact mean that construction is not really too 'fiddly'. A useful reference book to have by you is of course *American Armoured Cars 1940 to 1945* by Chris Ellis and Peter Chamberlain (Almark Publications) which includes excellent 1:48 scale drawings by Kenneth Jones, and many good pictures.

I commenced construction with the turret as I thought this would be by far the most difficult part, being cast on the original. It was built up of laminations of 50 thou plastic sheet, two circles, 22 mm and 24 mm, and four graduated shapes the first of which is shown in the sketch. Stick the laminations together threading on to a wooden cocktail stick to help align them and to act as a pivot, then allow to dry thoroughly.

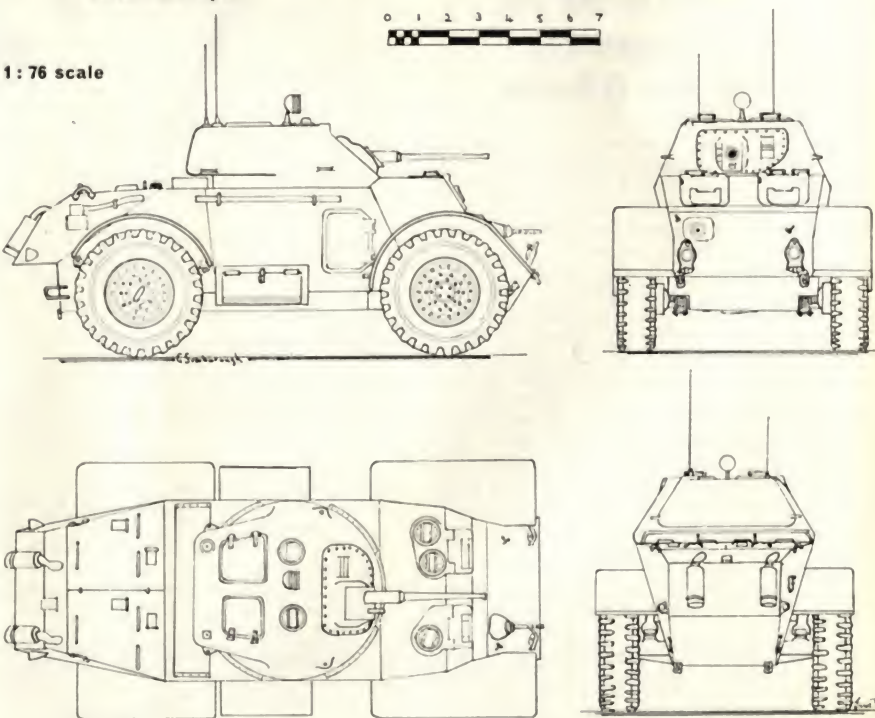
This should give a rough shaped turret and it is only necessary to saw off the front face at the angle as shown on the plan and sandpaper to the finished shape. Note the sides of the rear extension of the turret slope in towards the top and all edges are well rounded. The detail is quite straightforward, the front face 8 mm deep and 12.5 mm wide from 10 thou sheet with rivets impressed from the back with an old ball pen, or very gently with a compass point. The gun is from stretched sprue, or a spare from a Lee/Grant kit, and the hatches are from 15 thou sheet.

I made my hatches in the open position with crew as shown in the photographs, and to do this I first stuck them in place with Evostik and moulded a fillet of Plastic Padding around the edge. When dry prise out the hatch covers leaving the fillet behind (with luck). You will then find you have to make a new pair of hatch covers to stick in the open position so it is easier to leave them closed.

To finish the turret, add the mantlet



Above: Turret is most easily made from laminations of styrene sheet cemented together as shown here, then filed and sanded to shape.



sides, etc., from scrap and the periscopes, aerials, etc., and don't forget the lifting lugs which are a distinctive feature of the turret. I made these by drilling 1/32 inch holes in odd corners of scrap 20 thou sheet and cutting out the shape round the hole.

Now to the crew, the addition of which does help give the model scale and makes it look as if it's going somewhere. The offside member of the crew is from Airfix RAF Emergency set with sliver-of-sprue headphones and the one on the nearside is actually a German from Sd Kfz 234, head and legs amputated and replaced with head from fire crew set.

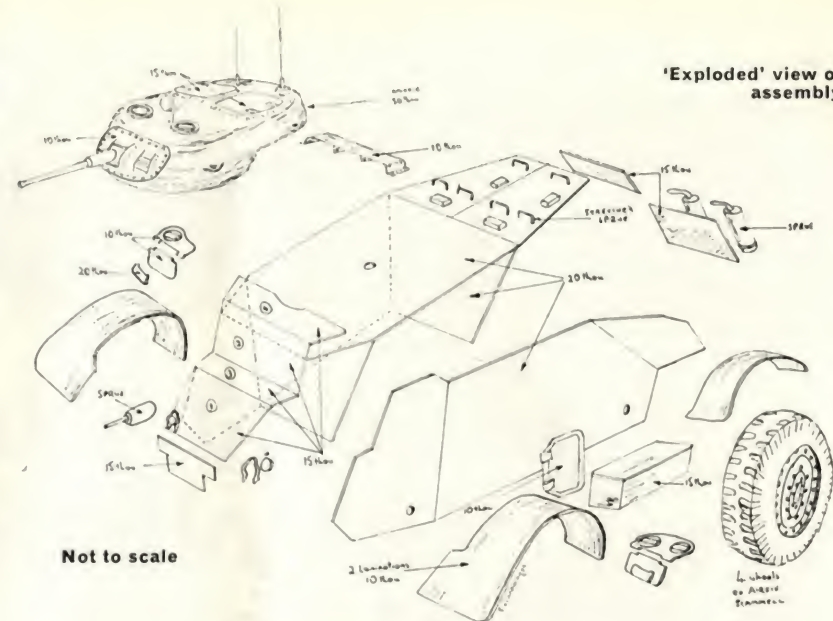
Now to the hull, which was a welded structure on the original, and the method of construction can follow this closely. From 20 thou sheet cut out the top from the point shown in the exploded view not forgetting to allow for the thickness of the sides. Score in the engine hatch cover lines. Cut out two bulkheads 14.5 mm deep, 22 mm wide at the top tapering to 14 mm wide at the bottom and cement in place vertically underneath the hull top using scrap gussets to hold in place.

The sides can be taken direct from the drawing but allow for the extra length at the rear due to the narrowing of the engine compartment and also allow for the thickness of the front faces. Score from the inside on the bend lines



The front mudguards are the next to tackle and I suggest you first make a pattern from thin card, bend to the right curvature and offer this up to the hull to check that it will sit square. Trim if necessary and when satisfied make four from 10 thou plastic, laminate in pairs using a minimum of cement and sellotape round a dowel or similar of the correct diameter and leave to dry thoroughly. You should find that when dry they will retain their shape and will require a little trimming and sanding to finish before cementing in place. The front of the mudguards is flat and overlaps the front face of the hull by about 1 mm. The rear ones are made and fixed similarly.

It is now only necessary to add the vision hatches, periscopes, hull machine gun, ventilators and handles to the



engine deck, and the exhaust pipes, etc. Reference to photographs will show what can be included in the way of details. The side doors were drawn on 10 thou plastic and then, working inside the line, were impressed with a ball pen all round to give the bevel edging as can be seen from photographs. The tool and spares boxes are made up from 15 thou sheet and jettisonable fuel tanks can be fitted

above these if you wish, though it was probably more usual to stow camouflage nets, packs, tarpaulins, etc, in this position.

Wheels are from the Airfix Scammell Tank Transporter mounted on cocktail sticks through holes punched or drilled in the hull sides and the finish is in Humbrol US Olive Drab from their excellent Military Vehicle Camouflage kit.

PEN-FRIENDS WANTED

THE following readers have written in recently asking for pen-friends and/or information as detailed. Anyone interested is asked to write direct to the addresses given.

P. A. Ruff, 18 Trefoil Close, Selly Oak, Birmingham 29, is writing a book on the Me 262 and would like to hear from anyone who met (or flew) the type in combat. T. Cvanar, Palackeho 114, Melnik, Czechoslovakia, collects model car kits and would exchange Czech magazines and kits for these. Wieslaw Fuglewicz, Wroclaw 2, Lwowska 10/g, Poland, is 36 and would like to hear from someone in Britain in this age group interested in exchanging British and American aircraft kits for Polish and East German kits and magazines. Bohumir Hynek, 28 plynk c.35, Praha 10 - Ursovice, Czechoslovakia, would like to hear from anyone wishing to exchange *Airfix Magazine* and kits for Czech magazines and kits. E. Hood, 27 Cross Street, Kirkaldy, Fife, would like a pen-friend in Australia or New Zealand interested in World War 2 aircraft and ships. Alistair Brown, 6 Manor Close, Abbott's Ann, Andover, Hants, would like a pen-friend in Japan interested in aircraft, and would also like to hear from anyone who has information on August Euler and his aircraft designs. Lionel Wright, 6 Grange Way, Rochester, Kent, who is 15, would like to hear from anyone his age interested in 1914-18 aircraft. Jack Hoper, Warsaw 33, ul. Paryska 17 m.46, Poland, would like to hear from anyone wishing to exchange *Airfix Magazine* for Polish magazines. Robert H. Kronenberg, 440 Mill Street, Liverpool 8, is primarily interested in modelling and drawing space craft and would like to hear from anyone with similar interests.

Vladimir Mokros Mudr, Jecminkova 30, Prostějov, Czechoslovakia, would like to hear from any adult readers (he is a 36 year old doctor) wishing to exchange *Airfix Magazine* and *Airfix* kits for East European kits, Czech aviation magazines, or stamps. He is primarily interested in World War 2 aircraft. Alejandro V. Dyuceuc 1270-D Santiago de Vera, Tondo, Manila D-402, Philippines, is interested in aircraft and AFV modelling and would like to hear from anyone in Britain, USA, Europe, and Japan (21-31 age group) keen to exchange kits. Brian Smith, 'Dakota', 4 Eastholme, Hayes, Middx, is compiling a history of RAF Dakotas and would like to hear from anyone with anecdotes, squadron memories, or from old Dakota units who may be able to help. Tim Barby (13), 48 Baydale Road, Darlington, Co. Durham, would like to hear from anyone his own age with a prime interest in railway modelling or slot car racing. M. Darriebeaude, 14 Allée des Frères Lumière, 33 Bordeaux-Cauderan, France, is 18 and would like to hear from anyone that age in Britain interested in RAF aircraft models from 1918 to the present. Hrazdil Drahomir, Tomkova 18, Olomouc 6, Czechoslovakia, would like to hear from anyone in his age group (32) in Britain wishing to exchange *Airfix* aircraft kits for Czech and East German kits, toys, books, or magazines. Zdenek Bryna, Perknov 809, Havlickuv Brod, Czechoslovakia, is a student who wishes to exchange Czech and East German kits (or Czech glassware) for *Airfix* kits from anyone in Britain. C. P. Kendal, 22 Streatham High Road, London SW16, has formed a North London Wargames Group, which meets monthly in Finchley. Further details from Mr Kendal. Jiri Trnka, Brno-Krakov Pole, Riegrova 28, Czechoslovakia, is specially interested in Jeeps and other cross-country vehicles. He would like to receive kits

or models of this category of vehicle from British readers with similar interests, and in return offers Czech and East German kits and magazines, and East German model railway items. A. Woods, 70 Penmann Crescent, Halewood, Liverpool, would like to hear from anyone in the Liverpool area interested in Napoleonic period wargames. A. G. Watson, 263 Beckfield Lane, York, is secretary of the York Aviation Group for aircraft enthusiasts, and anyone in the York area interested in joining in is invited to contact him for more details. Slavek Tinnavsky, Horní Cerekev 11, Czechoslovakia, is 25 and collects OO/HO size models of road vehicles. He would like to hear from readers in Britain, Germany, or Czechoslovakia with similar interests who might also like to exchange models. He can write in German or English. G. R. Allison, c/o 1 Recce Sqn (NZ Scottish), Burnham M/C, New Zealand, would like to correspond with anyone in Britain or USA interested in exchanging 1:76 scale tank kits and models for New Zealand military badges, stamps, or similar items. He would also be interested in exchanging books or photos covering AFVs and other military items. Shigeru Tanaka, 399 Okubo, Okubo-cho, Akashi-city, Hyogo, Japan, is interested in aircraft models and would like to hear from anyone in Britain keen on model aircraft and conversions. Kimijstot Marecki, ul. Nawbusta 40 w 3, Warsaw, Poland, is interested in World War 2 aircraft and would like to exchange notes, cuttings, kits, etc, with anyone in Britain with similar interests. Jiri Klischel, Sabesuky c.52, abt. Plastjor, Czechoslovakia, would like to hear from anyone in Britain willing to exchange Airfix kits for Czech and East German kits. P. R. Sampson, 5 Ridgeway Close, London Road, Hemel Hempstead, Herts, is

Continued on page 76

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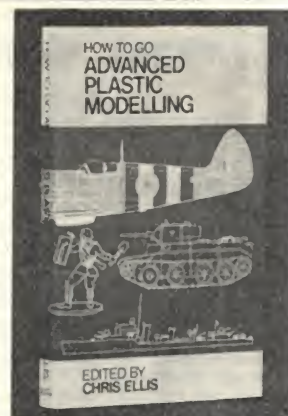
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A Wellington Mk XIV similar to the type used to sink U-566 in the Bay of Biscay on October 23, 1943. Note the differences in the nose of this aircraft from that on the bomber (MoD).

Coastal Command Wellington

CONVERSION PROJECT DESCRIBED BY ALAN W. HALL

ONE of the most successful night attacks on U-Boats took place in the Bay of Biscay on October 23, 1943, when Wellington Mk XIV, HF132, sank U-566. Now 27 years later a reunion has been arranged by the U-Boat commander, Herr Lubke, between the crew of the Wellington and the U-Boat crew in Germany.

The Wellington belonged to No 179 Squadron operating from Gibraltar. After completing most of the patrol contact was established on the ASV radar at a range of six miles. The aircraft turned 90 degrees to port to investigate. As it approached, the crew, who had by now brought the aircraft's height down to 300 ft recognised the phosphorescent wake of a U-Boat and at less than a mile illuminated the target with the Leigh light. An attack was pressed home using six depth charges set to shallow depth, spaced 60 ft apart, which straddled the target. Meanwhile, anti-aircraft fire from the U-Boat had slightly damaged the Wellington's tailplane.

The accuracy of the attack had obviously badly damaged U-566 and a long endurance flame float was released by the British crew and the aircraft circled watching the scene on radar. At the limit of its endurance HF132 returned to base, refuelling, before returning to where the U-Boat had been attacked. By that time it had sunk and the survivors rescued by a Spanish fishing boat.

Arrangements for the reunion on the British side have been made by Flight Lieutenant Charles Ford who is now a catering manager in Louth, Lincolnshire. It was he who approached me with the idea of making a model of their Wellington to present to the surviving members of U-566. How the conversion was completed is described in this article.

Building a Wellington Mk XIV is not too difficult, if you can mould canopies, that is. Apart from modifications to the nose, the engines come in for some alteration, there's a Leigh light to be made and Sunderland props were found in my spares box, though others could be adapted. Perhaps the most difficult task of all was insetting the fuselage side windows. Readers may recall the problem that beat me in a previous *Airfix Magazine* article on the Wellington when I gave up trying to do the job in clear plastic because there was not enough stiffness in the fuselage to hold it in position. I did it this time, though, using a different adhesive and by not having such a length of clear plastic to deal with.

STAGE 1 Before starting work on the fuselage two strips of clear plastic were cut from the upright member of the two-part Airfix display stand that comes with the larger models. The shape needed was scribed on the surface of the plastic by tracing through from the plan using the

tip of a pair of dividers and then cutting out the frame marks using a fretsaw. Criss-cross indentations were then cut into the surface, again with the dividers, to represent the geoditic construction of the aircraft. Similar small pieces but oblong in shape were cut for the rear transparency.

STAGE 2 I cut out a piece of thin paper to the shape of the fuselage windows and tipped this on to the fuselage in the correct position noting that its lower edge corresponded to the curvature of the upper surface of the wing. Four holes were drilled at each corner of the area to be removed, the fretsaw inserted and the whole window area cut away. When this and the small oblong window further aft were cleaned up with a file the transparencies were cased into position until a perfect fit was achieved. This went a long way to easing the problem of getting the windows to stay put and they were eventually given a thin coating all round with Humbrol Universal adhesive which did the job much better than ordinary polystyrene cement. Any small cracks left after this was dry were filled with body putty.

STAGE 3 Fuselage construction can now proceed. The rear turret was made up, cockpit detail inserted and the triangular transparencies fitted in position. Fuselage halves were cemented together and set aside to dry. Meanwhile the wings were assembled apart from the undercarriage legs and wheels.

STAGE 4 After leaving the fuselage to dry out for 24 hours the nose section was cut off vertically from the line of the rear of the front turret on the kit and back from a line taken vertically from the bomb aimer's window under the fuselage. A small balsa plug was then stuck in position using polystyrene cement large enough to cover the Mk XIV nose radome. Again this was left for 24 hours to dry out.

Continued on page 76



The basic chape for the nose radome. A small piece of balsa wood is stuck in place after the front turret area back to the bomb aimer's window had been cut away.

Vickers Wellington Mk XIV
HF132:A of No 179 Sqn, RAF
Gibraltar, 1943



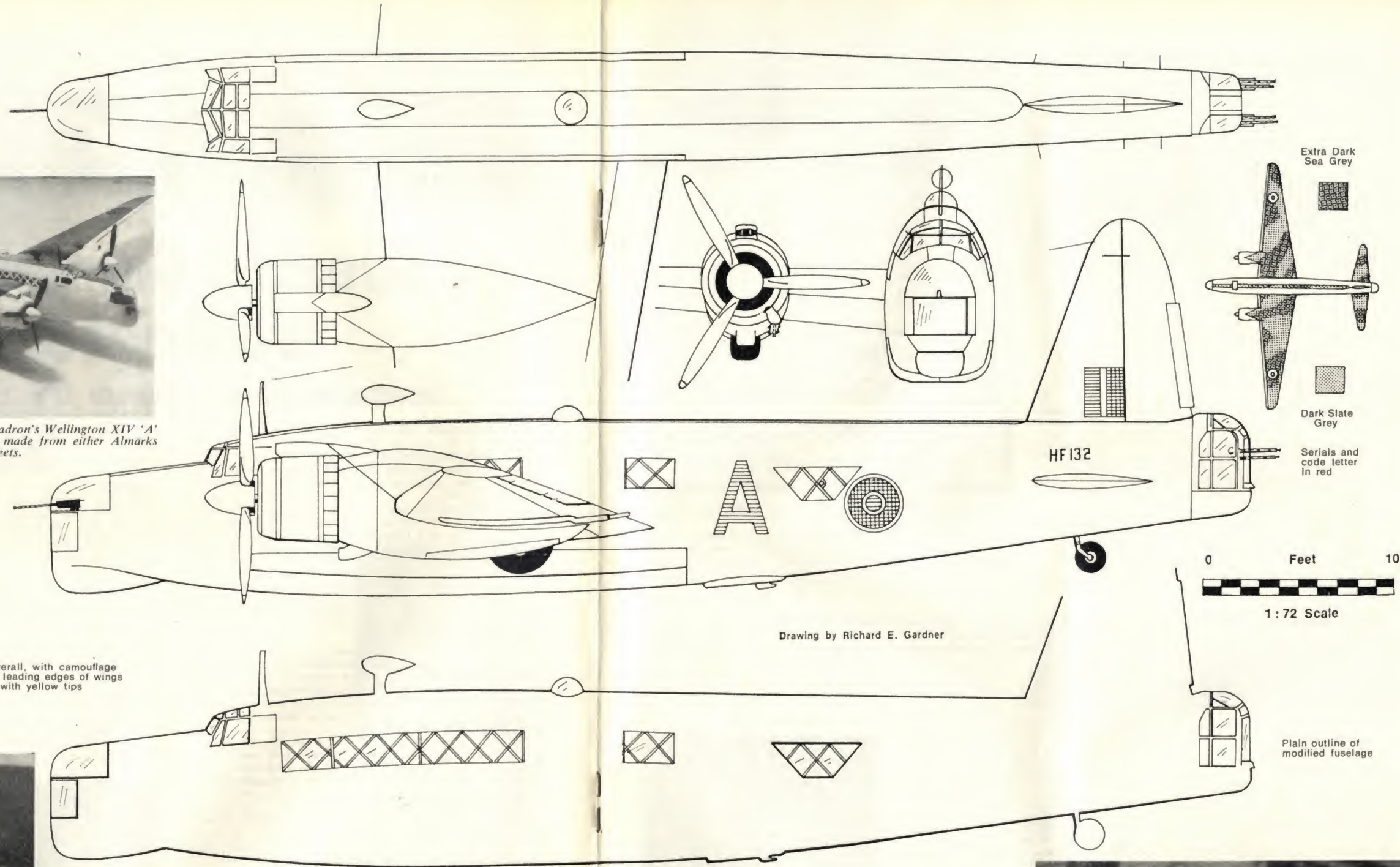
The completed model of No 179 Squadron's Wellington XIV 'A' which sank U-566. Markings can be made from either Almarks or Dri-dec sheets.

Single nose-mounted Browning machine gun is optional

Entire aircraft was painted matt white overall, with camouflage applied to upper surfaces only; note that leading edges of wings were also white; propeller blades black with yellow tips



Two stages in the production of new air intakes on top of the nacelles. The left hand one shows the small piece of balsa shaped to fit the top of the nacelle whilst that on the right shows the finished product, sanded to shape and filled with dope and talcum powder mixture. In the foreground are the two Sunderland props used on the model.



Extra Dark
Sea Grey

Dark Slate
Grey

Serials and
code letter
in red

0 Feet 10
1:72 Scale

Drawing by Richard E. Gardner

Plain outline of
modified fuselage

NB: Aircraft had no under-
wing markings of any kind



Left: The fuselage transparencies in place. Note that the surface has been scored with a sharp point to represent geodetic construction. Humbrol Universal adhesive was used.

Right: The Leigh light. A piece of 1/16 inch balsa is stuck in position covered with filler and sanded. The circular piece of plasticard in the modeller's fingers is then added to represent the retractable light.



STAGE 5 The rough shape of the radome was carved using a small knife and the area finished with sandpaper. The shape of this radome is a subtle one and modellers will have to take care when doing the job as it is very easy to make a mistake. It is better to leave most of the shaping to the sandpapering stage rather than hack away merrily with the knife. When complete the wooden area is given a thorough coating of clear dope and talcum powder filler and left overnight to dry.

STAGE 6 Making the mould for the nose transparency comes next. This again came from a small piece of balsa wood which can be fitted against the already completed conversion work. Make the shape fractionally small in all dimensions so that when the acetate sheet is moulded the thickness of this will correspond to the underside shape of the mould. The amount of plastic available for a joint on the rear vertical side of the new transparency and the fuselage is minimal so great care must be taken at this stage to get the mould as accurate as possible. Having completed the male shape the area is marked out on a 1/4 inch sheet of obechi and the female mould cut through with the fretsaw. A piece of acetate sheet is cut to overlap the female mould by 1 1/2 ins all round, pinned down to the surface of the wood and heated under the electric grill or gas stove. When the acetate becomes floppy and just before it starts to bubble the male mould is pushed through as far as it will go. To facilitate the ease in doing this job I mounted the male section on another piece of balsa which served as a handle. The male mould also gets the talcum powder and clear dope filler treatment before it is used.

STAGE 7 After cooling, the transparency is removed and, using the fine toothed X-acto saw, cut both the vertical and horizontal sides of the transparency away from the surplus acetate sheet. It can now be finally fitted and glued in position on the fuselage. Before doing this I painted the interior of the glazed area black and allowed this to dry before continuing. Humbrol Universal adhesive was used to stick the transparency in place and when this had dried sufficiently I rubbed down the wood and plastic surrounding it to complete the job. If a nose mounted machine gun is required on the model this should be inserted through a small hole drilled or bored in the transparency before sticking it in place.

STAGE 8 Attention is now given to the engines. Here new air intakes are needed on top of the nacelles. These were made from balsa, carved to fit the top surface of the nacelle and stuck in place. The final shape can be sanded after the joint has dried out. A dope and talcum powder filler was applied and the modification sanded smooth. Undercarriage legs were added but although the wheels were painted at this stage they were not set in place until the model had been otherwise completed. Two propellers from a Sunderland kit were taken from the spares box and used instead of the kit parts.



The radome is finished, the transparency moulded and stuck in place and the nose generally cleaned up. Also in the picture is the male mould used to shape the glazed area. Note that the interior of the nose was painted black before the transparency was stuck in place.

STAGE 9 To make the rear underfuselage Leigh light I took a 1/16 inch sheet of balsa and cut from it the rough pear shape of the basic area. Cutting the length of the mounting along the grain allowed me to glue and hold this in position on the fuselage so that its shape moulded with the curvature of the fuselage at this point. A very small piece of balsa was added at the rear of the shape to correspond with the plan and the whole covered with filler and allowed to dry. The actual circular Leigh light area was cut from thin plastic card and stuck in place when the mounting had been sanded smooth.

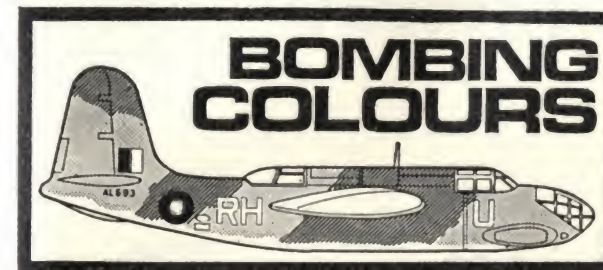
STAGE 10 After adding the details like cockpit, astrodome, tail unit, rear wheel and radio mast the wings can be set in position and the model readied for painting.

PAINTING AND CAMOUFLAGE The Wellingtons of No. 179 Squadron were finished in standard Coastal Command colours of the late 1943 period. This consisted of a basic white overall scheme apart from the top of the fuselage and wings. Here the colours were dark slate grey and extra dark sea grey. The latter colours were painted first and then masked out so that the sharply defined dividing line along the top of the fuselage and above the leading edge of the wing could be maintained. Hand painters will need two coats of white to get rid of the black plastic of the kit and it is best to use fairly thin coats to do this rather than try to slap the paint on heavily.

Unit codes of No 179 Squadron consisted of an individual letter only. The aircraft modelled was 'A', serialised HF132. Both of these were in red. Other than this standard national markings, C1 type roundels on the fuselage and 'B' type roundels above the wing were used together with the narrow white fin flash. No markings appeared below the wings. Dri-dec rub down transfers suited the requirements exactly though the Almarks offerings can equally easily be applied.



N1352 was delivered just as war had commenced and wears the factory finish of the Mk V, being first flown in August, 1939. Note the absence of fin serials



Part 19: The Armstrong Whitworth Whitley

IN the summer of 1934 the agreed disarmament restriction on bomber aircraft weight was abandoned by Britain since other countries were clearly not interested in adhering to it. The Air Ministry was then able to shop around for a larger heavier bomber than previously. Armstrong Whitworth had designed a bomber for the Czech Government in the spring of 1934. Interested, the Ministry asked the Company to adapt it for possible RAF use, under Specification B.3/34 of July.

On September 14, 1934, two prototypes were ordered with a proviso that the whole development programme must be rapid. Speedy production was also a feature of the basic design, and it led to an aeroplane with a very angular appearance. Nevertheless, the new bomber was the first heavy with retractable undercarriage and turreted armament to enter service.

From the start it had an unmistakable trade mark, a very 'nose down' attitude in flight due to the wing incidence being set at 8.5° in an attempt to cut the landing run. The latter, and the take-off run, were expected to be lengthy with the new monoplanes of those days. Considerable acquisition of land for airfields even then could have had awkward political repercussions, irrespective of the obvious need for massive defence commitments. It was still hoped to operate the bombers from grass fields to spare the expense of runways.

This was the period of a number of schemes for rapid RAF expansion. On August 23, 1935, the Ministry ordered 80 of the new Armstrong Whitworth bombers 'off the drawing board' (ie, even before the prototype had flown) under Scheme C. But this quantity was soon deemed insufficient so on May 13, 1936, under Scheme F, the order was increased to 240. By this time the all-silver prototype K4586 had first flown, which it did on March 17, 1936—already six months late.

It was soon apparent that the machine, whose performance was far from glittering, would be obsolescent even before it entered service, for 1936 saw the decision to go for four-engined bombers and the high performance multi-purpose machine to Specification P.13/36 of which so much was expected. The Armstrong Whitworth machine was now seen not as a heavy, but as a medium bomber. Nevertheless, more orders were placed for aircraft looked upon to maintain front line strength, and in 1936 production orders called for 320 B.3/34s, all to be complete by March 31, 1939. By this time the second all-silver prototype, K4587, was flying. By the end of 1936 production examples of the aircraft, now named the Whitley after the place of construction, were well advanced and flight trials commenced at the end of 1937.

Thirty-four of the first type, the Mk 1 (K7183-7216), were laid down, powered by Tiger IXs of 795 HP. A feature of the early machines was that they had no dihedral—about eighteen of them—but later machines had 4° outer wing



Above: K4586 the first prototype. It soldiered on into the war being used at 1 AAS and by the Airborne Forces in 1943.

dihedral and earlier ones seem all to have been retrospectively modified.

The Whitley I had one .303 in Vickers gun in nose and tail turrets and a bomb load of 3,365 lb. Its speeds were 192 mph at 7,000 ft and 186 mph at 15,000 ft with full load. There was a good chance of increasing its range if the structure could bear an increased all-up weight. K7208 was accordingly modified to lift an extra 10,000 lb, and the range was pushed up to 1,940 miles.

Four camouflaged Whitley Is were delivered in March 1937. K7184 came first, going straight to No 10 Squadron at Dishforth, followed the same month by K7185 and '86. K7183 was the A & AEE trials aircraft.

Whitley Is trickled into 10 Squadron which had K7184-95 by the end of June 1937. Deliveries were then made of K7196-7207 to No 78 Squadron at Dishforth between July and October 1937. Finally came K7209-7216 for 58 Squadron

Continued on next page

Pen-friends—from page 71

gathering information on the aircraft built and designed by Halton Aero Club between 1925 and 1930 (the HAC 1, 2, and 3 respectively). He would be pleased to hear from anyone with photographs or anecdotes, or any ex-apprentice involved in the work. Alan Thrush (14), PO Box 2220, Bulawayo, Rhodesia, would like to correspond with anyone in Britain interested in aircraft of 1939-45. Katashi Sakatani, 2-403 Ushiyama-Shiyukushiya, Ushiyama-cho, Kasugai-shi, Aichi-ken, Japan. He would like to hear from anyone in Britain in his age group (20) interested in modelling World War 2 aircraft. Frank H. Muirhead, 3 Haremore Cottages, Farlington, Berks, is collecting information on transport aircraft and squadrons of the RAF. He would be pleased to hear from anyone who could lend him pictures or pass on memories relevant to this subject. Armand van Ishoven, 133 Lozana Street, Antwerp, Belgium, is writing a book on the German pilot Ernst Udet and would like to hear from anyone with memories, pictures or cuttings, either about Udet himself or the types produced by Udet-Flugzeugbau. Sgt J. H. Collins, 6 Drake Road, Thetford, Norfolk, is building a collection of models of No 12 Sqn aircraft for display within the squadron (of which he is a member). To assist in getting accurate markings and finishes he would like to hear from anyone who can loan pictures, cuttings, or other illustrations of 12 Sqn machines, in particular the DH 9, Fawn, Fox, Hart, Hind, Battle, Wellington, Lancaster,

Lincoln, Canberra, and Vulcan. Ivan Porcal, 83 Premyslenka, Prague 8, Czechoslovakia, who is 26, would like to hear from anyone in Britain willing to exchange Airfix aircraft kits for Czech, East German, and Polish kits. F. Woerner, Loogstrasse 38, CH-4142 Munchenstein, Switzerland, would like to contact modelers in Britain, France, and Germany interested in naval aircraft and the Danish Air Force. A. W. Evans, Cynlas, High Street, Llanberis, Caerns, North Wales, is compiling a history of aircraft stationed on RAF airfields in Wales during the 1937-45 period and would like to hear from anyone who can supply squadron details, serials, locations, pictures, etc, applicable. Michael J. Gething, c/o National Westminster Bank Ltd, Trustee & Income Tax Dept, 8a Christchurch Road, Bournemouth, is compiling a history of 23 Sqn, RAF, and would like to hear from past members of the squadron with memories, anecdotes, and possibly pictures to lend. Petr Kalab, 65 Lazicka, Olomouc, Czechoslovakia, is keen to contact anyone in Britain willing to exchange Airfix kits for Czech and East European kits and aviation magazines. Klossz Laszlo, Budapest XIV ker, Limanova ter. 1 III em, and Fila Lajos, Budapest XX ker Pe., Attila u 30, IV em 18, Hungary, are both keen ship modellers and would like to hear from anyone willing to supply ship kits from Britain or elsewhere in exchange for East European kits and magazines. They write only in German. David Darf, Bathurst Road, Staple-

hurst, Tonbridge, Kent, would like a pen-friend in Germany or another European country, interested in aircraft of both world wars, civil aircraft, and military modelling. All overseas readers mentioned here write in English unless otherwise stated.



This beautifully detailed model of the 14,000-ton P & O Cargo Liner Strathardle was built by crew member Wong Wing of Kowloon, who took a year to make the model entirely out of papier mâché. It is considerably better detailed than the average kit-built plastic ship!

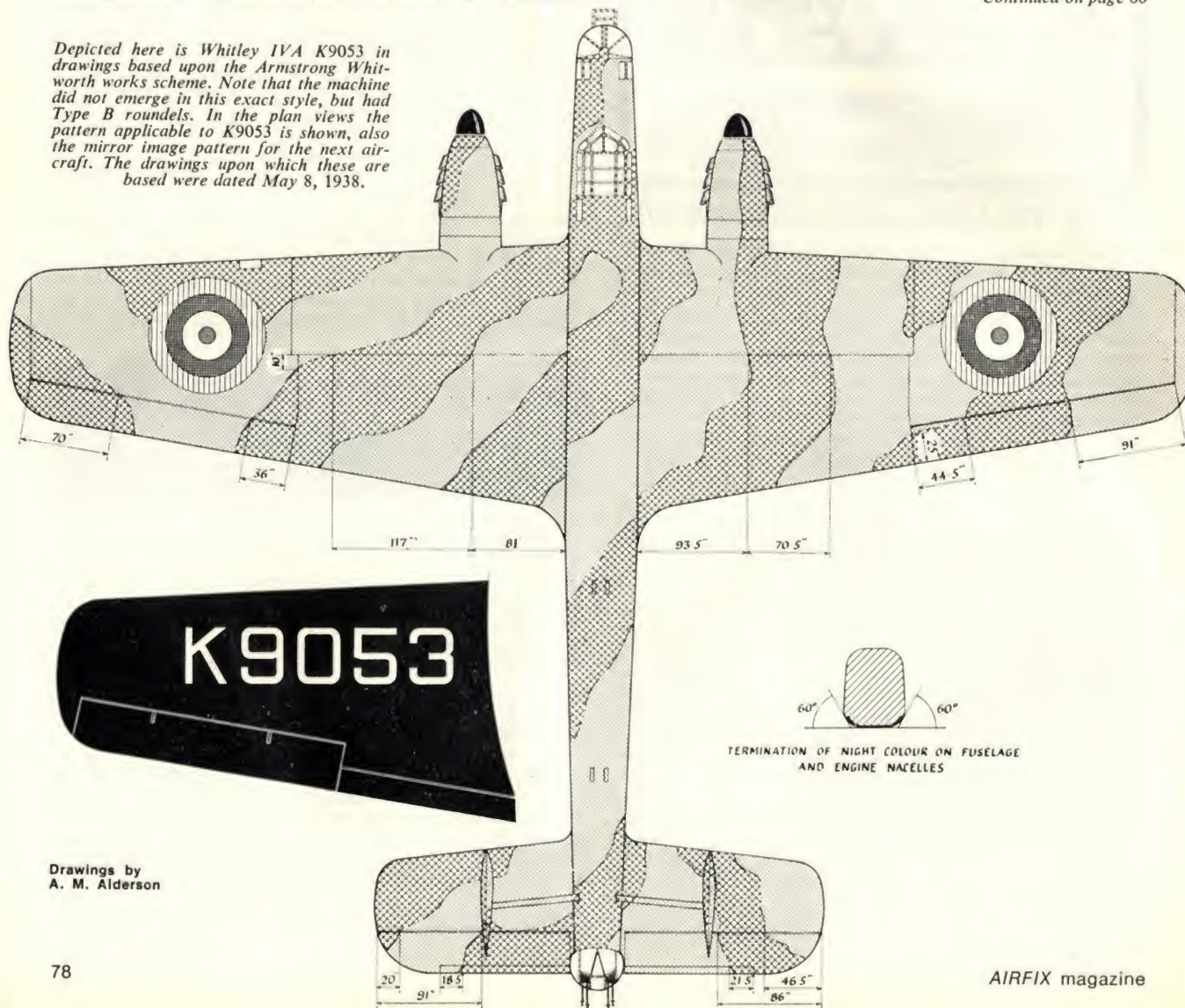
Bombing Colours—continued

at Boscombe Down, delivered from October to November 1937.

Apart from the two prototypes, production Whitley bombers were delivered in 'super matt-rough finish' Dark Earth and Dark Green camouflaged with Night, ie, black, under surfaces. On their fuselage sides they had Type A1 roundels, the outer diameter being 49 inches. Above the wing tips, centred one-third of the half wing length from the tip, they again wore Type A1 roundels, this time of 98 inches diameter. Alternate aircraft were in mirror pattern A and B Schemes. Under their wings they carried white serials four foot high spaced much more widely than might have been expected. Another unusual feature was that 8 inch fin serials were planned to be applied to all four faces. Photographs show that a few featured this, but it was more customary for them to carry serials on the outer fins only.

In 1937-38 service the Mk 1s of 10 Squadron wore four-foot medium grey number-letter combinations, the number

Depicted here is Whitley IVA K9053 in drawings based upon the Armstrong Whitworth works scheme. Note that the machine did not emerge in this exact style, but had Type B roundels. In the plan views the pattern applicable to K9053 is shown, also the mirror image pattern for the next aircraft. The drawings upon which these are based were dated May 8, 1938.



Drawings by
A. M. Alderson



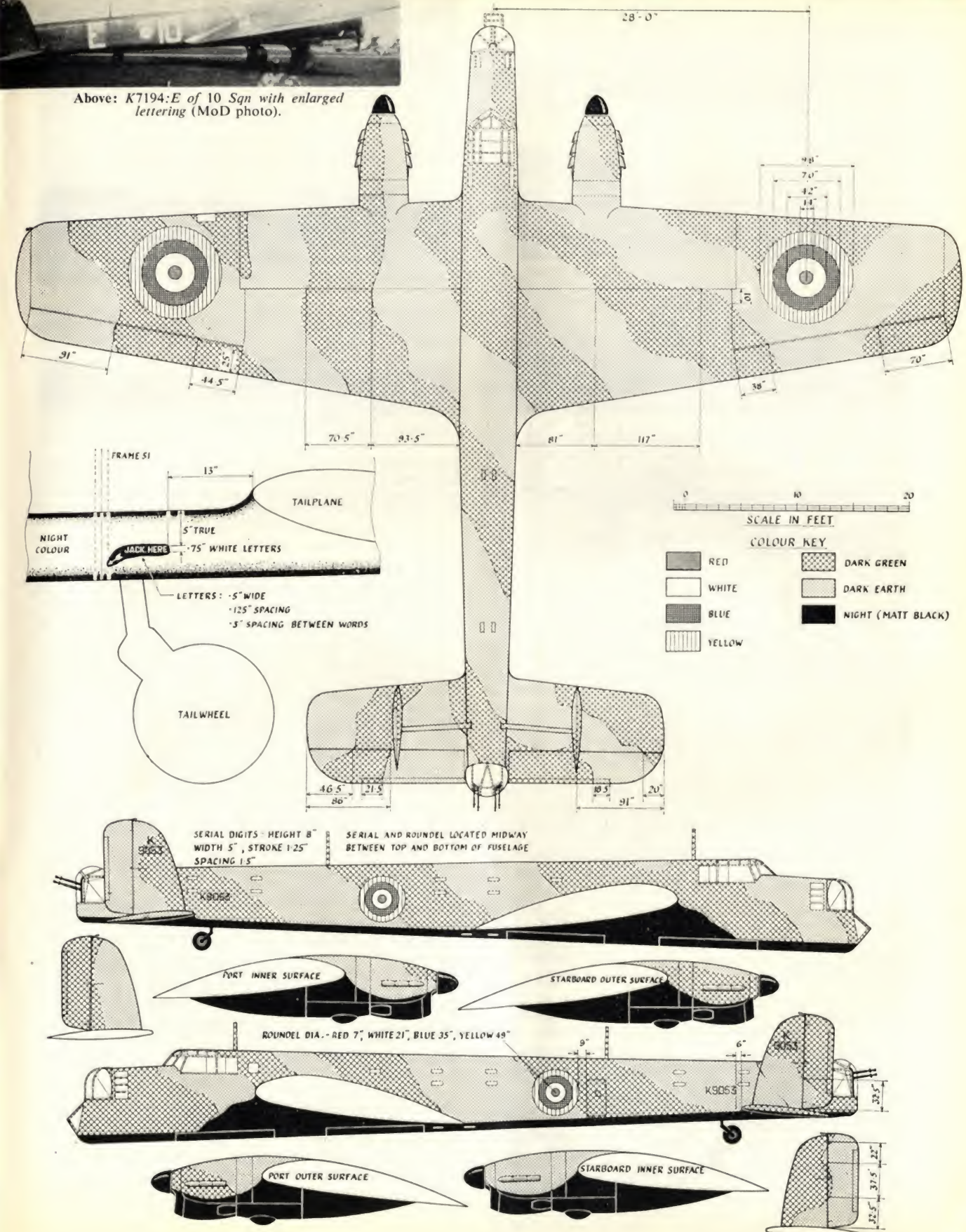
Above: K7183 the first production Whitley 1 in Scheme 'A'. Used for trials only including those of various turrets for the Whitley and Halifax.

forward of the roundel, letter aft, eg, K7185:H-10, K7189:L-10, K7192:C-10, K7194:E-10. Usually the aircraft letter was repeated on the sides of the nose, too. No 58 Squadron had similar markings, but its Mk 1s are known to have had an adaptation of its squadron badge, an owl painted on quite a large white disc on the extreme front of the sides of the nose. No 78 Squadron had unit number and letter applied on the rear fuselage, 78-R being K7207. An unusual machine used by this squadron was K4587, the second prototype

Continued on page 80



Above: K7194:E of 10 Sqn with enlarged lettering (MoD photo).



Bombing Colours—continued

camouflaged, which it was flying in 1939.

Early in 1937, Air Ministry considered that at the present rate of production there would still be about 120 Whitleys undelivered by March 31, 1939, and so on April 30 it was decided to cancel these. But by February 1938 it was obvious that the schedule for the P.13/36 was slipping badly so the Ministry decided to order an additional 148 Whitleys on May 4, 1938. Armstrong Whitworth's production rate was still very poor and by then the Wellington had become the main 'stop gap' type and was a much better performer. Armstrong Whitworth, it was decided, would build Wellingtons, 164 of them. The changeover in production was then seen to cause serious dislocation and the plan was dropped in favour of Armstrong Whitworth building another 64 Whitleys and keeping its labour force intact.

The urgent problem facing the Company was how to improve the aircraft. Apart from increasing the range there was a need for more speed, and this led to the Mk II with more powerful Tiger VIIIIs developing 920 HP and answering Specification 21/35. These engines had two-speed superchargers and the speed rose to 215 mph at 15,000 feet. Range with full load was 1,315 miles. Forty-six Mk IIs were built as K7217-7262, thus completing the original order for 80 aircraft.

First deliveries of the Whitley II were made in January 1938, when four (K7218-21) passed into RAF hands. But there were production hold-ups and delivery was erratic. By the end of May it had reached K7260 and was completed in June.

No 58 Squadron was first to receive the Mk II for whom K7218 arrived on January 13, 1938, K7217 having gone to Martlesham five days previously. K7219-21 also went to 58 Squadron in January and K7222 to 10 Squadron the same month. Next came K7223-32, all for No 51 Squadron at Boscombe Down. Then came the turn of No 7 Squadron based at Finningley, equipped between March and May with K7233, '36-'42, '44-'47 and '53. Equipment of 58 Squadron then continued, with K7254-60 replacing its Mk Is which were put into temporary storage.

Again these aircraft had the now customary Dark Green and Dark Earth camouflage with Night under surfaces, and Type A1 roundels and serials as on the Mk Is. K7228 was initially marked 51-K in the usual style but when seen in September 1938, she was 51-T. K7232 at this time was 51-K. K7253:7-E was something of an oddity for her lettering (E repeated on the nose) in August 1938 was in pale blue after the manner of some fighter squadrons. She was the only Whitley of the period noted by the author that did not have the same medium grey shade of lettering. The bombers—unlike the fighters whereon, despite recent comments to the contrary, codes varied enormously in colour from light

Below: Another view of K7183, shown earlier, showing the lack of dihedral and the paint pattern on the starboard side.



Top: K7191 lacks dihedral. Note position of roundel and serials. Above: Two views of K7200, a Mk I with dihedral and standard finish but lacking a turret. It was used by 78 then 166 Squadrons. The serial was well spaced beneath mainplane, as is evident from a study of the pictures.

blue to dark grey—usually opted for medium grey or yellow.

By September 1938, 412 Whitleys were on order of which 100 had been delivered. Under Scheme L of October 1938, 5,500 aircraft of existing types were ordered, this including 164 more Whitleys on November 29, 1938.

The Whitley III figured under the inventory from the second order. It also had Tiger VIIIIs, but in the nose was a Nash & Thompson power-operated turret mounting a single Vickers .303 inch machine gun. The old AWA turret was retained in the tail, but armament was supplemented by a ventral dustbin turret, retractable and mounting two Browning .303s. This was a heavy addition and cut the speed considerably when lowered. Turret supply was not good, and many Whitleys entered squadron service with fairings in place of the turrets which were later fitted. New bomb racks in the Mk III were also featured to permit carriage of larger bombs.

The 80 Mk IIIs were K8936-9015 and they answered Specification 20/36. K8937, the first taken on RAF charge, in August 1938, went to 51 Squadron which received K8938 the same month. K8939-41 reached that squadron early in September. Thereafter came Mk IIIs for 102 Sqn at Driffield, eg. K8943-58 delivered by November 1938, of which K8945 became 102-V. A quota was delivered to 77 Squadron, Driffield, between November and February 1939, including K8959, '60, '61, K8991-98. Examples for 7 Squadron were delivered between November 1938 and December included K8964 and K8978-75. No 7 Squadron also received earlier machines transferred from 51 and 102 Squadrons, such as K8942, '45, '49. Still the Whitleys left the production line in the familiar finish.

A change for the better came in the Whitley's fortunes when it was decided to fit Merlin engines, again conferring additional power. This was first done in the Mk IV which had Merlin IVs offering 1,030 HP. It also had a power-operated four-gun Nash & Thompson tail turret in place of the manually-operated one, a great step forward.

AIRFIX magazine

In May 1939, the Mk IV came into service as K9018 passed to 10 Squadron. In a few weeks K9017-9037 were all with No 10 at Dishforth, K9026 becoming PB-0. This released Mk Is for a new squadron, No 166, at Leconfield, which served as a 4 Group Pool training squadron and used amongst others K7184-88 and K7191 and some from other squadrons, also supplanted by later marks.

By July 1939, the Mk IVA was on the production lines differing by having 1,145 HP Merlin Xs. Most of the Mk IVs had the four-gun tail turret but a few started life with the old AWA type. The Mk IV also had extra fuel tankage and it was the first to feature a fixed chin bomb aimer's perspex canopy. Extra power in the Mk IV gave it a top speed of 245 mph at 16,250 feet; it cruised at 215 mph at 15,000 ft and its range of 1,250 miles—considerable by any standards at this time—could rise to 1,800 miles by fitting additional long-range tanks. Thirty-three Mk IVs were built (K9016-9048) and seven Mk IVA (K9049-9055). The IVAs were delivered in July and August 1939, to 78 Squadron, beginning with K9049 on August 3. K9050-9055 all went to No 78 at Dishforth.

All the IVs and IVAs were delivered in the standard 'brown and green' finish, but in service acquired Type B roundels of much reduced diameter on the fuselage and Type B roundels above the wings of the same diameter as previous roundels. Fin serials were retained.

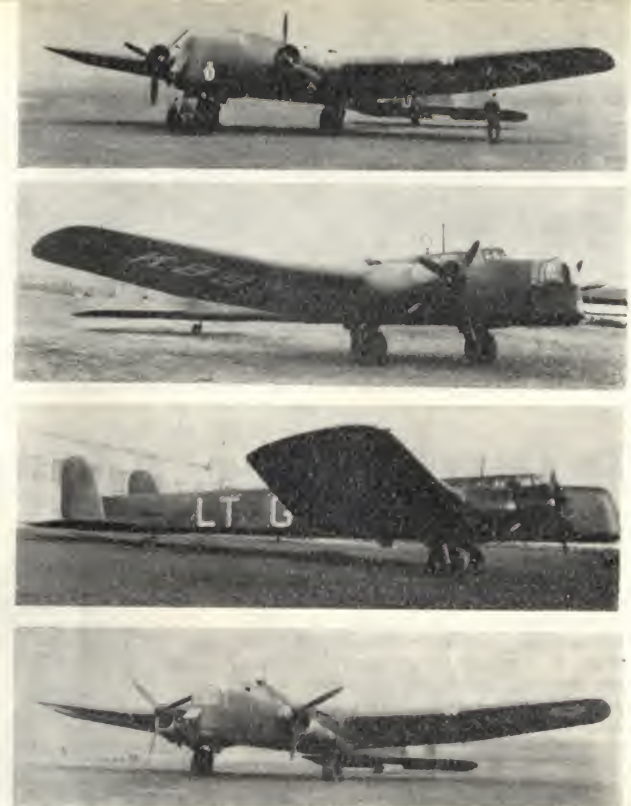
Final bomber variant of the Whitley was the Mk V (Merlin X) which had its fuselage length increased by 15 inches at the extreme rear and was the first mark to feature straight fin leading edges. A total of 302 was ordered in 1938, but only five had reached the RAF by the start of hostilities. The first of these, N1345, went to A & AEE for trials on August 28, 1939, where N1346 and N1349 joined it. On August 27, N1347 and N1348 went to 78 Squadron. Pre-war Whitley equipment was complete.

By the summer of 1939 one other squadron had Whitleys on charge. This was No 97 at Leconfield which was the second Group Pool Squadron for 4 Group. In July-August 1939 it received Mk IIs including K7219, K7221, K7248 and Mk IIIs in February-March 1939, including K8999 and K9014. There were six front-line Whitley squadrons when the war started, Nos 10 and 78 at Dishforth, Nos 51 and 58 at Linton-on-Ouse and Nos 77 and 102 at Driffield. Nos 97 and 166 were training squadrons at Leconfield. On the night of September 3/4, ten Whitleys of 51 and 58 Squadrons left on the first night operation of the war, dropping 13 tons of leaflets on the Ruhr, Hamburg and Bremen. Between them the squadrons used: K8938, K8941, K8982 (51 Sqn) and K8964, '69, '73, K8990, K9006, K9009 and K9013 (58 Sqn). From the start the Whitley squadrons had specialised in night bombing.

The Whitleys passed through three phases of marking styles before the war. First came the green-brown-black finish with Type A1 roundels on fuselage and wings with fuselage, fin and wing serials. There was a change in the spacing of those under the wings and on the Mk IVs and Vs the digits were closely spaced, as they were on some earlier aircraft. Number-letter combinations about 4 feet high were carried and some squadrons wore their badges on the nose. There was also an interim stage when machines with Type A1 roundels were carrying code letters.

By the spring of 1939 many Whitleys had Type B roundels, but as early as late 1938 some were recorded wearing them. The first coded aircraft recorded by the author were those of 7 Squadron in April 1939, with medium grey codes LT-A, D and E—with Type B roundels and shorn unfor-

October, 1970



Top to bottom: K7219, 'D' of 58 Sqn, with nose badge. It was a Mk II which served with 58 Sqn, 97 Sqn, 10 OTU, 1 AAS, 9 BGS, 9 (O) AFU and No 1 Signals School (MoD photo). K8936, the first Mk III wearing pattern 'A'. It was used for trials and was later at 10 OTU, 2 BAT Flight and 7 AGS. K7244:LT-G of 7 Sqn at Finningley. It had Type B Roundels overpainted on Type A1. It appears to have very light grey codes and under-wing serials (Photo via Bruce Robertson). N1349, delivered just before the war was a Mk V with closely spaced serial. Type A under-wing serials and light undersurface finish forward on the nacelles (MoD photo).

unately of their serials. Some of No 7 Squadron's aircraft had codes and Type A1 roundels early in 1939 but they were soon changed to Type B.

It used to be generally thought that codes were applied at a specific date but the latest evidence indicates that this occurred between September 1938 and March 1939. This also seems to be true of Type B roundels. A possible explanation is that codes and 'night flying' roundels were applied by some squadrons during the crisis in September 1938, and not removed from some aircraft after it had abated. Others then appear to have gradually come into line in the following winter. Neat dates sometimes listed bear little relation to the event, unfortunately.

Code letters for the Whitley squadrons before the war were: 7(LT), 10(PB), 51(UT), 58(BW), 77(ZL), 78(YY), 97(MR), 102(TQ) and 166(GB). Examples of coded machines with Type B roundels include BW-D: K8967, BW-H: K8979 and BW-G: K8969. BW-L was K8970. K7228 was UT-T.

An interesting feature of the Mk IV and IVA was that when their markings were originally planned in May 1938, it was proposed that they were inner and outer fin stripes for certain identity, red leading followed by a 14½ inch white stripe and a 14 inch blue stripe, taking the striping to the rudder post. This never emerged on any aircraft since markings changed to war standard before the IVs left the production line.

Michael J. F. Bowyer



Forerunner of the 'Hall' class described last month was the 'Saint' class which makes a natural conversion subject from the Triang 'Hall' model. Shown here is a typical locomotive from the class, Langford Court in the lined out GWR livery of the inter-war era.

'SAINT' CLASS CONVERSION

GWR enthusiasts will not need to be reminded that the 'Hall' Class was developed from the 'Saints'. No 2925 *Saint Martin*, built originally in 1907, became the prototype of the 'Hall' Class when it was rebuilt with 6 ft driving wheels and side window cab in 1924. Although *Saint Martin* was renumbered 4900 in line with other 'Halls' it retained its distinctive name until it was withdrawn. The 'Saints' were deservedly popular and wholly successful engines. It can be said that 20th Century British locomotive development owed everything to their introduction since the 'Saints' set a style which was followed through right to the last BR standard designs. The Class as a whole had a working life span of 50 years and 47 of the original 76 engines (not including 4900) survived to be nationalised.

It follows, therefore, that the 'Saints' are well worth modelling and, since they had such a close relationship with the 'Halls', the Triang-Hornby *Albert Hall* is the ideal model to use for a conversion. While you are at the model shop buying your *Albert Hall* the other items you will require are a set of six 24 mm diameter coupled wheels with axles, seven bushes for adapting the larger axle holes of the Triang-Hornby chassis to the new wheels (the seventh one is for the worm gear wheel), four 12 mm locomotive bogie wheels with axles and a set of engraved brass name and number plates.

Now, this is where the fun starts since the 'Saints' had a number of variations and it is important to choose the name and number according to which variant you wish to model. Some locomotives had a straight footplate with an angular drop at the front end only, some retained the straight footplate under the cab but had a curved drop at the front end. Some had curved drop footplates both under the cab and at the front end. Some had outside steampipes, some had inside steam pipes. Some had screw reverse with the lever sloping diagonally as on the *Albert Hall* model, some had lever reverse with a straight horizontal lever outside the splashers. I would refer readers to the April 1968 issue of the *Rail-*



BY NORMAN SIMMONS

way Modeller for explicit information and drawings showing this detail. Also the RCTS publication *Locomotives of the Great Western Railway, Part 8; Modern Passenger Classes* is an invaluable aid.

Your choice of prototype may perhaps be influenced by the availability of engraved brass name and numberplates. As an example, the current Eames list includes the plates given in the accompanying tables.

| Number and Name | Built | Fitted with Outside Steam Pipes | Footplate style/remarks |
|--|-------|---------------------------------|--|
| 2902 <i>Lady of the Lake</i> | 1906 | 1943 | Built with straight footplate but rebuilt with curved drop front end only in 1943. |
| 2912 <i>Saint Ambrose</i> | 1907 | 1931 | Built with curved drop ends to footplate front and rear, screw reverse. |
| 2915 <i>St. Bartholomew</i> | 1907 | — | |
| 2927 <i>Saint Patrick</i> | 1907 | 1945 | |
| 2937 <i>Clevedon Court</i> | 1911 | 1948 | |
| 2948 <i>Stackpole Court</i> | 1912 | 1932 | |
| 2971 <i>Albion</i> (nameplate fitted close to splashers) | 1903 | — | Ran as 4-4-2 between 1904 and 1907. Built with square footplate front and rear, lever reverse. |

I chose 2927 *Saint Patrick* which was built with curved drop ends front and rear but retained its inside steam pipes until 1945.

The major modifications are perhaps to the Triang-Hornby chassis since new larger diameter coupled wheels have to

be fitted. The correct size should be 6 ft 8½ inches but the nearest size available in 00 gauge is 24 mm, a scale 6½ ft which comes very close. First I stripped the chassis of the motor, front bogie, cylinders, coupling and connecting rods but leaving the 2-rail pick up and leads in place. The axles were knocked out of the wheels using a nail with the point sawn off and a hammer. The leading coupled wheel axle is a little more difficult because of the gear wheel. The special brass bushes designed to take Romford axles had to be carefully fitted since not all could be inserted with the same degree of ease. In most cases it was necessary to open up the Triang-Hornby chassis hole using the tapered handle end of a file and in many cases the bushes themselves needed opening out to enable the axles to revolve freely. This is a time consuming job but well worth the time spent. The gear wheel needs to be knocked back in place using the seventh brass bush for this purpose. Needless to say, the axle has to be inserted through one side of the frame first.

Replacing the gear wheel is a tricky job. It has to be a force fit as otherwise it will revolve round the axle, there being no grub screw to hold it in place. If you are using Romford wheels and axles it is best to keep the nuts in place when tapping the end of the axle. One sometimes hears criticisms of Romford wheels but I found the six used in my 'Saint' conversion fitted perfectly square on the axles and so far I haven't been able to trace any signs of wobble. The spokes needed a lot of cleaning up and the crank pin holes needed to be drilled out; No 51 drill for the front and rear wheels and No 54 drill for the centre wheel. No 54 is the correct size for a 10BA tap which must be used to tap out a 10BA thread with which to replace the Triang-Hornby crank pin screws. As you will probably have found out already, the crank pins are fixed to the coupling rods on Triang-Hornby models at the front and rear ends. The insulated wheels should be fitted to the offside but if you have left the 2-rail pick up in place this will positively identify the

correct side.

Now we can turn attention to the body. I took the opportunity to remove the plastic handrail and nameplates as referred to in last month's article on the 'Hall'. Also the smokebox was shortened and the front end modified similar to



Above, left: 'Saint' class mostly had 3,500 gallon low-sided tenders which can be adapted, as here, from the now-discontinued Airfix City of Truro tender. A cast metal kit of the right type can be purchased from Wills, the locomotive kit producers. Right: Completed model prior to painting showing modified cab and new large diameter scale wheels. At a pinch beginners could leave the existing wheels unchanged since the overscale flanges do in some way compensate for the smaller diameter wheels on the Triang 'Hall'.

the 'Hall'. Further shortening of the forward footplate was accomplished by sawing across the flat part and removing a section 2 mm wide. The two severed parts were subsequently cemented together again. I was particularly keen to have an inside steam pipe version as this gives added distinction between the 'Saint' and the 'Hall'. Carving the pipes away was a simple job using a craft knife and various needle files. Another point of difference between the two classes is the absence on all the 'Saints' of the box forward of the cab on the offside which is a predominant feature on the 'Halls' and which I suspect has something to do with the screw reverse. This unwanted feature was carved away with craft knife and file. The beading round the edges of the splashers is not apparent on the 'Saints' and needs to be removed. The cab of course calls for major structural alteration. The wire handrail can be easily removed and the rear end of the cab roof can then be sawn off at the point where the cab roof narrows. Subsequently the cab windows were filled in with plastic card and the openings in the side sheets were restyled similar to the shape of the *City of Truro* cab.

Fitting larger coupled wheels has the effect of raising the body and the boiler centre line. The correct height for the boiler centre line should be 8½ ft, the same as the 'Hall'. It is therefore necessary to modify the points where the body meets the chassis to bring it down to the correct height. At the rear end this is simple since there are two small vertical supports moulded on to the body which rest on top of the chassis. Their height can be reduced simply with a craft knife and I found a chisel also very useful for this purpose. The fixing screw hole needs to be filled in with plastic and a new hole drilled higher up.

Completed model in the immediate pre-war GWR livery with 'shirt button' totem on tender.



The front end is a little trickier, however. First the extension piece which projects forward from the chassis proper (and which also holds the cylinder assembly) was filed across the top to reduce its thickness and consequently its height. At the same time, this extension piece also needs to be reduced in length at the forward end by 3 mm because the whole of the front end is shortened as with the 'Hall' described last month. Next the part of the body under the smokebox which rests on the chassis extension piece was filed underneath to reduce its thickness to a minimal amount. A channel is thereby formed into which the extension piece can slide. When the extension piece is the same thickness as the depth of the channel all is well. A piece of plastic card can then be cemented across the underside of the footplate, bridging the channel and thereby holding the extension piece in place. The front end can then be rebuilt cementing the top edge of the curved drop footplate under the forward edge of the main footplate.

The gap in the centre needs to be filled in with plastic card and the opportunity should be taken to build in as much strength as the restricted space will allow since this part can be a weak structural point if you are not careful. A liberal coat of liquid plastic helps to 'weld' all the parts together. They must of course be left severely alone while setting and the longer the better. By the way, the drop from the main footplate to the lower forward end should be 5 mm. To enable the lowered body to fit on the chassis the tops of the cylinders need to be filed down slightly and also the stretcher joining the two cylinders can be filed underneath to lower the cylinders slightly. Lastly, the inside edges of the splashers need to be carved away to clear the coupled wheel flanges. There

is enough plastic here to be able to remove enough surplus material without cutting right through the splashers. Incidentally, this gives the lie to the often repeated excuse why scale diameter wheels cannot be fitted to some proprietary models. Here we are, fitting wheels to a model 2 mm larger in diameter than those intended, yet they fit and revolve without any apparent difficulty.

Completing the body is largely a matter of filling in with Isopon or plastic card the holes left from carving away the various unwanted parts. Wire handrails were fitted in place with split pin handrail knobs and additional handrails were fitted either side of the cab in line with the boiler handrail. The vertical handrail at the cab entrance, which incidentally is outside of the cab side sheet in line with the edge, is best represented by a length of Slater's plastic rodding. Screw couplings and a vacuum pipe improve the appearance at the front end. Lastly, the fitting of scale 12 mm bogie wheels improve the appearance especially if the bogie is close coupled as described in the article on the 'Hall'.

Although I imagine there may have been exceptions, the 'Saints' were in the main fitted with the Churchward type of 3,500 gallon tender. Such a tender is available in kit form from the cast metal kit manufacturers. It is also possible to convert the discontinued Airfix *City of Truro* tender into a 3,500 gallon type as I described in the June 1967 *Airfix Magazine*. But please don't use the tender straight from the kit if you do have a *City of Truro* kit to hand. It is not the right type for a 'Saint'. From a cursory look at the Triang-Hornby tender it might just be possible to use this as a basis for conversion. Perhaps we might follow this up later.

Anyone making these 'Hall' class conversions—including the 'Hall' itself—will find that the Ian Allan book *Historic Railway Locomotive Drawings* in 4 mm scale is a most useful reference work.

IPMS MEETING

NEXT London Area IPMS meeting will be held at St Mary's Church Hall, Brereton Street, London W1 (opposite Selfridges) at 19.30 on Friday, September 25 when there will be a special film show devoted entirely to naval aviation. Non-members are welcome. Meetings take place at this venue on the last Friday of each month. For IPMS membership and magazine details, write to the Membership Secretary, 40 Cromwell Lane, Birmingham 31.

NEW BOOKS

REVIEWED FOR MODELLERS

German Navy . . .

DIE DEUTSCHE KRIEGSMARINE IM KAMPF, 1939-45, by Bodo Herzog. Published by Podzun-Verlag, Dornheim, Germany and available in Britain from W. E. Hersant, 228 Archway Road, Highgate, London N6. Price 94s 6d post paid.

DESPITE the proliferation of books covering German aircraft and tanks in World War 2, books dealing with German ships and naval operations are still relatively rare. This handsome volume is packed with hundreds of fascinating German official pictures (we take the publishers' word for it that they total 430) devoted to all aspects of the German Navy in World War 2. The extensive text (in German only unfortunately) comes in the form of long captions to the pictures which are presented chronologically year by year. There is also a yearly 'calendar' of operations. Lengthy appendices give the 'order of battle' on September 1, 1939, detailed 'scores' of the ace U-boat commanders, and similar tabulations for the main commerce raiders and battleships. This is a top quality book in every way, highly commended for the naval enthusiast. Our only regret is that the publishers didn't provide a bi-lingual text, or at least a summary of the text in English. In fact there is room on most pages for at least an English synopsis of the text which would enhance the value of the book still more. Even with only the German text, however, it is still 'readable' even if you don't claim to know much about the language.

. . . German Giants . . .

THE GERMAN GIANTS: R PLANES 1914-18, by G. W. Haddow and P. M. Grosz. Published by Putnam & Co Ltd, 9 Bow Street, London WC2. Price 105s.

THIS is the second edition of a book which was first published seven years ago; 'second edition' is perhaps misleading as much new information has been added to this most authoritative book.

It is split up, for easy reference, into two broad parts; the first of which explains the R plane and gives detailed descriptions of its use, flights, operations, raids etc. It is really a very detailed account of the R plane. The second part deals with the aircraft themselves giving a brief history of each variant together with a superb plan for each main type.

The scope of this book is too wide to fully describe here, but it must be the most detailed coverage yet devoted to one class of aircraft. There are many pages of text devoted to such diverse subjects as their bomb loads, colour schemes, etc. No aspect of this most interesting subject is left out.

R planes is—at the risk of sounding repetitive—a most complete book; well worth having despite its high price tag. A very great deal is contained within those 300 pages.

. . . And German Air Force

PICTORIAL HISTORY OF THE LUFTWAFFE, by Flight Lieutenant Alfred Price. Published by Ian Allan Ltd, Terminal House, Shepperton, Middx. Price 37s 6d.

IN spite of the large number of documents, film and photographs which have been found since the second world war, it is surprising how often authors tend to repeat the propaganda fantasies put out by both sides during the conflict. Alfred Price who is well known for his authoritative writing on German air activities before and during the War puts many of these facts in their correct perspective. He shows in this book how the Luftwaffe in 15 years grew from nothing to the world's mightiest air arm and how it suffered for its mistakes. He ably describes the mobility and flexibility of the Germans in moving not only their aircraft and ground crew but large numbers of troops and supplies from one battle-front to the other in amazingly short periods. It is amazing to think that the Germans were able to

do almost as much with their comparatively antiquated aircraft during the war that we in Britain are now expecting from modern RAF transport squadrons. He also corrects the facts about the German night fighter techniques which on two occasions almost completely stopped the RAF night bombing offensive.

The book is copiously illustrated with many photographs of events and aircraft taken during the Luftwaffe's rise and fall. Many of these come from the files of the Imperial War Museum but others are from private collectors and not previously published. This is an excellent book, which not only gives a history of the Luftwaffe but also provides the model maker with valuable reference on aircraft markings.

Frontier rails

COUPLINGS TO THE KHYBER—THE STORY OF THE NORTH WESTERN RAILWAY, by P. S. A. Berridge. Published by David & Charles Ltd, South Devon House, Newton Abbot, Devon. Price 84s.

FOREMOST in this story of India's largest railway are the extreme climatic and geographical features that had to be overcome during its construction and subsequent operation; 92 miles of bridging, 700 miles of desert, floods and earthquakes to mention a few. Justifiably therefore the accent is on civil engineering but all railfans who are looking beyond British shores will value this book highly. The 320 pages include 32 pages of photographs, an index and several maps and diagrams.

Air and sea

HANDLEY PAGE—AN AIRCRAFT ALBUM, by Donald C. Clayton. Price 30s.

LOSS OF THE SCHARNHORST, by A. J. Watts. Price 25s. Both published by Ian Allan Ltd, Terminal House, Shepperton, Middx.

BOTH of these books are the first respectively in new series put out by Ian Allan, and both are very well done and full of interesting material. The timely volume coinciding with the sad demise of Handley Page is a 'must' for aircraft fans and is top value for money. In words and pictures it records every Handley Page type built with specifications, serials, histories, etc, and is a first class reference work highly commended. The second book matches the format and size of the Ian Allan warship books and gives a concise account of operations leading to the sinking of the *Scharnhorst* in 1943, with maps, pictures, and an hour-by-hour coverage of events. A reference section is packed with data, notes, and details of all ships and forces involved, all neatly and clearly presented for warship enthusiasts.

German gunners

GERMAN ARTILLERY, 1914-1918, by David Nash. Published by Almark Publishing Co, 104-106 Watling Avenue, Edgeware, Middx. Price 17s 6d (paperback) or 25s (hardback).

THIS book by a well-known *Airfix Magazine* contributor gives detailed coverage of the German guns and gunners of the first world war and is packed with pictures, facts, and data of interest to model soldier fans. Colour drawings show camouflage, uniforms, badges, and regimental flags all in a very neat and attractive volume.

In brief

JUST published is a new edition of *The Observer's Book of Automobiles* (Warne, 7s), for the first time compiled by the Oyslager Organisation. The style has changed slightly from previous editions with a layout more uniform with the aircraft books in the series. This is a useful and inexpensive buy for car enthusiasts. Latest volume in the Aircarm series is *Sharkmouth 1916-1945* by Richard Ward (Osprey Publications, 21s). This is devoted entirely to photographs and coloured drawings of aircraft and units which have adopted the well-known sharkmouth style of marking as a badge or unit symbol. It is quite a feast of exotica for aircraft marking fans. Out of the usual run of books reviewed here is *Bicycling 1874* (David & Charles Reprints, 30s) which is a facsimile of a book published in the early days of cycling. Quite apart from its interest as a social document, it will be of special appeal to anyone interested in bicycles or model cycles. Several new Profiles have been published recently

Continued on page 87

AIRFIX magazine

PSL BOOKS FOR MODELLERS

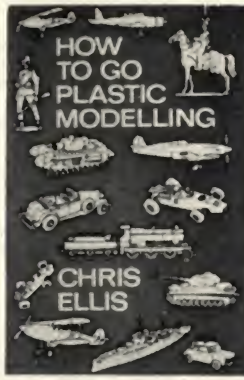
HOW TO GO ADVANCED PLASTIC MODELLING



HOW TO GO ADVANCED PLASTIC MODELLING

Edited by Chris Ellis
Editor of AIRFIX Magazine

Just published is the long-awaited companion volume to Chris Ellis' popular book for beginners. Sure to be enjoyed by thousands of modellers all over the world. Goes deeply into assembly, construction and conversion of many different types of plastic models. 192 pages, 8½" x 5½", 100 pictures, 68 drawings. 40s net



HOW TO GO PLASTIC MODELLING

By Chris Ellis
Editor of AIRFIX Magazine

The second edition of an essential and comprehensive guide to plastic modelling. Ten chapters covering such topics as: basic assembly, detailing, converting, modelling materials, tools, painting, transfers, markings, research, display, maintenance and scenic settings. 176 pages, 8½" x 5½", 80,000 words, 79 pictures, 7 pages of scale drawings, numerous sketches in the text. Second edition just published. Fully up-dated. 30s net

fighting colours

RAF fighter camouflage and markings 1937-1969



By Michael J. F. Bowyer

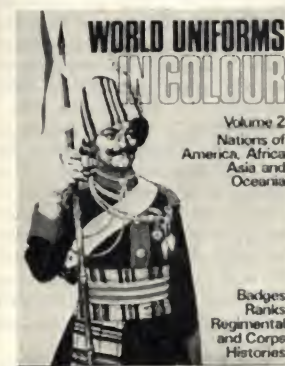
Michael J. F. Bowyer, well-known contributor to 'Airfix Magazine', details the development and changes in camouflage and markings of all Royal Air Force fighter types from 1937-1969 and lists the serial number allocations of every RAF fighter ever flown in that period. He records comprehensively how RAF colours altered over the years, against the background of contemporary events. Each chapter is illustrated with detailed line drawings depicting specific aircraft in typical markings of the period, with 139 individual drawings in all. In addition to 157 excellent photographs, there are exhaustive appendices giving precise data on all RAF fighter types since 1937. 192 pages, 8½" x 5½", case bound. 35s net

HOW TO GO COLLECTING MODEL SOLDIERS

By Henry Harris



The definitive work, by an acknowledged military expert, on how to make the most of your collection. This, the third in the popular 'How To Go' series of books, covers choice of scales, displaying models, developing 'themes', and conversion ideas as well as surveying the history of the different arms. Gives advice on how to plan a model army from first principles and how to mass the men and materials for a serious collection. There are more than 70 superb photographs and an interesting chapter on wargames by Brigadier Peter Young, there are eight instructive and fact-packed appendices featuring lists of manufacturers, societies, abbreviations and museums. 200 pages, 8½" x 5½", case bound. 35s net



WORLD UNIFORMS IN COLOUR

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Two superb colour books of interest to all military enthusiasts, modellers and model soldier collectors, describing and illustrating the uniforms, badges and ranks of present-day units with regiment and corps histories. They are factual and detailed in content, with pictures on every page. Volume 1 (now reprinting—ready October) features the European Nations and has more than 190 colour illustrations. Volume 2 covers 44 countries in America, Africa, Asia and Oceania and contains nearly 300 colour illustrations. Each volume, measuring 12½" x 9½", has a distinctive four-colour laminated board cover. 30s net each



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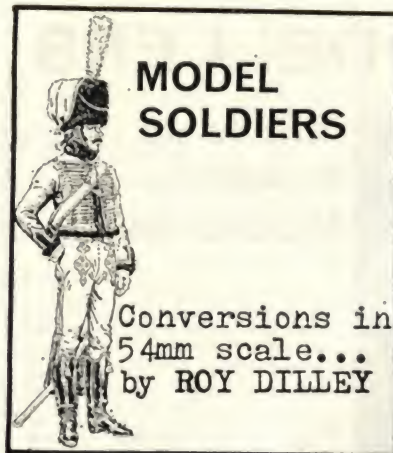
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MODEL SOLDIERS

Conversions in
54mm scale...
by ROY DILLEY

WITH the onset of the longer, darker evenings it seems a convenient time to consider here preparations for the modelling season 1970-1971, insofar as this concerns model soldier enthusiasts. It is a great help to work to a planned forecast or programme, both from the aspect of models to be produced and expenditure to be made. My colleagues Henry Harris and Chris Ellis in their respective 'How to Go' books, published by Patrick Stephens Ltd, also lay stress on this question of programming, so perhaps a few words of my own on the subject will not be taken amiss.

Consideration must first be given to the question of just which of our ideas for models are practical and fit in with the overall nature of our collections, and having decided this, approximately how long each item will take to complete, together with the cost of materials involved. Obviously some ideas will emerge as more attractive than others, so it will be possible to sort them into an order of preference, which will form the basis for the modelling programme.

In my own case, I write out a list of projects in order of priority, with approximate dates of commencement and completion, and this is displayed on the wall of my workshop at the beginning of the modelling season. As each project is completed it is crossed off the list, and it is surprising how encouraging it can be whilst working on a difficult or complicated piece of modelling, to glance up at the list and reflect that each item crossed off represents another idea translated into reality and swelling the ranks of miniature figures in display cases and cabinets. Some of you may not wish to go to these lengths or even to have a firm programme at all, but I personally find that the small discipline it imposes is extremely beneficial, and gives a definite purpose to what could otherwise degenerate into a rather haphazard production of unrelated items.

Having arrived at a programme for the season, we must then ensure that we

have what is required to carry it out, including capital. One of the great advantages of modelling and converting figures in plastic is that the tools and materials necessary are of a relatively inexpensive nature. Of course, it is possible to spend more, but my own set of tools, which I find adequate for the most exacting conversions, was acquired with an outlay of only shillings.

A typical tool-kit, suitable for most eventualities with model soldiers, would contain the following:

Craft knife and assorted blades
Razor saw
Small engineer's set square
Assorted files, of the 'needle' or 'warding' variety
Scriber or engraver
Tweezers
6 inch steel rule
Pin vice and assorted fine drills
Small pair of pliers
Small sharpening stone (fine grain)
Emery boards and fine emery and glass paper

As you can see, this is by no means a costly list, and items can be acquired as you go along, since it is perfectly possible to carry out simple conversions with just a knife, some files, and a steel rule.

Most of the materials that one needs to do this type of figure conversion are also cheap and readily available. I normally keep a small stock of these useful items in my workshop:

Plastic card sheet and Microstrip of various thicknesses
Plastic putty or body filler
Household pins of different lengths and thicknesses
Fuse wire
Polystyrene cement
Universal or UHU cement, and liquid cement (Mek-pak)

Several makers of 'custom-built' collector's figures, in metal and plastic, supply spares and accessories, such as heads, arms, weapons, equipment, etc, and it is often advantageous to use these in conversions work where a particularly difficult or special detail is involved. Although they add somewhat to the cost of conversion the saving in time and effort usually more than offsets this factor. Specialist manufacturers whose accessories I find extremely useful are:

- (1) **Rose Models Soldiers**, 45 Sundowne Road, Charlton, London, SE7. A very full range of metal heads and arms, covering many periods, and all of a very high quality.

Oberleutnant of panzer troops is very simply made from a mechanic in the Airfix Motor Racing figure set with minimal alteration.



An excellent and unusual figure, ideal for the forthcoming Airfix 1:32 scale Japanese set is this Japanese captain, made from the 1:35 scale officer in the new Tamiya VW Schwimmwagen kit which we will be reviewing next month.

- (2) **Historex**, Historex Agents, 3 Castle Street, Dover, Kent. Range of hard plastic heads, arms, bodies, weapons, horses, equipment, etc, all of the Napoleonic era, but many adaptable to other periods. Very finely engraved detail.
- (3) **H-R Products**, 9232 Waukegan Road, Morton Grove, Illinois, USA. A most comprehensive range of miniature weapons, cast in metal, covering many periods, but particularly good on World War 1 and 2. These little pieces are produced to an exacting standard of precision and accuracy. US modellers will want to make full use of these accessories, as will any UK enthusiast who can get hold of them.

All three manufacturers issue catalogues and lists, and constantly add to their ranges. The tools, materials, and accessories I have mentioned, together with the contents of your scrap-box, will equip you to deal with almost any kind of conversion requirement.

I hope that these ideas of mine will be of value in the working out of your own programmes, as I am sure that the enjoyment and satisfaction to be gained from the hobby can be increased significantly by the application of a little forward planning.

For the subjects of my conversions this month, I have taken representatives of two of the major participants in World War 2. The German figures of an Oberleutnant of Panzer troops as he might have appeared at the time of the Fall of France in 1940, wearing the combined beret and crash helmet that was discontinued later that year. An Airfix Motor Racing figure has been used as the basis for this piece.

Finding a suitable commercial figure for the Japanese infantry Captain—my second choice—posed rather a problem, which was solved by the recent issue by Tamiya of the VW Schwimmwagen kit, from which the officer figure is ideal. Being designed as 1:35 scale German, the height of the model is just right for a 1:32 (54 mm) Japanese! It is quite puzzling to reflect that so little seems generally to be known about the Japanese forces, when one considers the enormous impact of the War on South East Asia, and consequently upon Britain, the Empire and Commonwealth, other European colonial powers, and the USA. The



Right: Another view of the panzer oberleutnant figure. Left: Working drawings for this month's conversions, all keyed to references in text.



whole political structure of the Far East was radically changed as a result of Japan's bid for supremacy, and the present troubled state of the area may well be attributable to forces and trends which had their origin during the war period. It is also of interest, that the largest single British (and Empire/Commonwealth) Army of the second world war, 14th Army, was employed against the Japanese in Burma.

Conversion 1

For the Oberleutnant of German Panzer Troops 1940, the basic figure required is the Airfix Motor Racing Driver standing.

Remove the figure from its base, and carefully trim off the helmet from the left side, together with the left hand. Then with a sharp knife carve the body to resemble a Panzer jacket (Fig 1), and make sure that the waist is cut in sufficiently to allow a belt to be fitted at a later stage. Next lengthen the legs by severing each one at mid-thigh and inserting a 4 mm section before recementing. This technique has been fully discussed and explained in diagrams in previous articles. Fill all cracks with body filler, and smooth down when thoroughly dry. At this point, using a strip of .010 inch plastic card strip 1.5 mm wide, fit the waist-belt, with a small piece 2 mm long applied to the join in front to represent the buckle-plate (Fig 2). Now fashion from scrap plastic a Luger holster, to the dimensions shown in Fig 3, and attach it to the waist-belt at the left side. Make the stand by cementing together with Araldite rectangular pieces of plasticard and brass sheet, each 1 inch x 1/2 inch. Allow to set thoroughly, then cement the figure to the plastic side of

the stand with polystyrene cement. Obtain a complete left hand from the spares box, or cut one from another figure, and fit this in place resting against the pistol holster. Plastic putty should now be applied to each cuff, and smoothed down to the shape of open sleeves as opposed to the gathered in cuffs of the original figure (Fig 4). Cut shoulder-straps from .020 inch plastic strip 1.5 mm wide, and attach them to the jacket (Fig 5), smoothing the sleeve ends of the straps neatly into the shoulder seams. Finally add a blob of plastic putty to the head, moulding it roughly to the beret shape, and when it is completely set finish off with emery or glass paper (Fig 6). Check that all stages have been completed, undercoat, and paint.

Conversion 2

For the Japanese Infantry Captain in M98 uniform the essential figure required

COLOURING DETAILS

Panzer Officer

Trousers and Tunic: Black.
Belt and Boots: Semi-gloss black.
Badges: Silver-grey.
Beret: Black.
Piping (Collar, Shoulder Straps): Pink.
Belt Buckle: Metal-grey.
Shirt: Grey (or paint as white scarf).
Shoulder Straps: Silver-grey.

Japanese Officer

Trousers, Tunic, Cap: Khaki drill.
Belt, Boots, Gloves, Sword Scabbard: Semi-gloss brown.
Sword Hilt: Brown.
Collar Patches: Silver/gold.
Cap Badge: Gold.
Buttons: Gold.

New Books—from page 84

(Profile Publications, 5s each). In the AFV series there are issues on the Pz I and II, the LVT series of vehicles, and the KV and IS (Stalin), all in usual style with plenty of big pictures and colour art. The issue on the Pz I and II has extra colour pages which include German panzer divisional signs. However, the best of this present bunch is that on the LVTs which tells the story in immense detail and is splendidly illustrated, the work of Colonel R. J. Icks. In the Aircraft Profile series, the latest release is a nicely produced book on the Arado Ar 234 Blitz, a 'must' for German aircraft fans and anyone who has made the Lindbergh model. *Hawker Hurricane Described*, by Francis K. Mason (Kookaburra Technical Publications, 8s 6d), is an excellent revised version of an older book, but now re-published with splendid colour artwork and colour photographs in the latest

Kookaburra style. Complete with scale drawings and many pictures, it is very good value for anyone modelling Hurricanes. New title in the latest Bellona series is *Military Vehicle Data No 2* (Bellona Publications, 5s) which has scale drawings, pictures, data, and brief histories of nine vehicles of World War 2, including the White Scout Car, Diamond T truck, Maudslay Militant, and Ford Heavy Utility. Top value, this, at its modest price. Also new from this firm is *French Battle Tanks* (Bellona Publications, 12s 6d) which makes a neat pictorial record of French tanks from the Schneider CA1 of 1917 to the present AMX 30. The brief text leaves a little to be desired; it is multi-lingual (French-English) but the English part is a very literal translation which could have been more interestingly and accurately edited.

NEW KITS AND MODELS

FROG VENGEANCE

NEAT newcomer from Frog fills another gap in the available range of World War 2 aircraft types, being a fine 1:72 scale replica of the Vultee Vengeance dive bomber, much used by the RAF and RAAF in SE Asia, but more familiar in British skies at the time as a target tug. The kit is perfectly straightforward with the cockpit interior a one-piece moulding, and undercarriage supplied in optional 'retracted' or 'lowered' forms. The parts fit together as snugly as any we've seen, though there are tiny gaps left at wingtips and wing roots which need a small amount of filling. In the usual Frog style, there are two optional sets of transfers, one for a machine of 84 Sqn, SEAC, and one for a machine of 24 Sqn, RAAF. Colour scheme drawings are featured as usual on the box. Priced at 4s 9d, the kit is excellent value. Our sample came by courtesy of Jones Bros of Chiswick who can supply by post for 1s 6d extra, post and packing. C.O.E.

FROM REVELL

THREE new kits from Revell are more in the nature of re-issues than complete newcomers. These are additions to the popular 1:32 scale range of aircraft, all ameliorations of earlier models. Full marks to Revell in the case of the first two, respectively the Seafire IB and the Messerschmitt 109G, for they are genuinely different, if only in small details, from the original Spitfire I and Me 109F kits on which they are based. The Seafire has the addition of the big chin radiator, 20 mm cannon, cannon breech fairings for the wings, and an arrester hook, in addition to different transfers. So the same kit could also be completed as a Spitfire VB (or indeed a VA). The markings provided are not very imaginative and we feel sure that a more decorative transfer sheet could have been provided with the minimum of extra research. The Me 109G is, similarly, the old Me 109F kit with all the necessary 'bumps', intakes and fairings to make the famous 'Gustav', and once again, this makes a very legitimate 'new' kit which will be of great appeal. The third kit is the P-40E, which may have been changed in detail, but if so we couldn't detect it. So far as we can ascertain this simply has a change of transfers and new box-art.

The excellent quality and moulding of these kits will need no introduction to anyone who has already made them up in their original form—all the main parts are the same. We think, however, that kits of this good standard and in this price range really ought to have a line drawing of some sort in the instructions to show colour scheme and marking positions. It is really inadequate, certainly for beginners to kit building,



Newest tank kit to reach us is Aurora's 1:48 scale version of the MBT-70 US-German joint prototype. The kit is well up to the high standard of this Aurora series and features a sprung suspension which can be 'locked down' quite successfully to simulate this feature on the real thing. Judging by published pictures this model is 'spot on' as far as small details are concerned. Assembly is quite straightforward—we made it in an evening—and a base and infantry figures are included for those who want to display the model in diorama fashion. Highly commended, this kit is a bargain at 10s 6d. Jones Bros of Chiswick supplied our sample. By post from them, add 2s postage.

to refer vaguely to the box-top illustration for colour scheme details, particularly when these are hardly visible in the case of the Me 109G. Price of each of these kits is 15s 9d.

Fourth Revell release will please airliner fans, for it is a DC-8 Super 61, to the 'standard' 1:144 scale used in the Airfix 'Skyking' series. This model comes with United Airlines markings and is perfectly straightforward to assemble, even for beginners. We didn't do more than a 'dry run' on this model, but all parts clicked together neatly and we couldn't see any snags, except perhaps for the need to weight the nose if the model is to stand successfully on its undercarriage. There is no mention of this in the instructions. From the modelling point of view, the major shortcoming is the complete absence of windows. They are moulded as indentations but not pressed out. Whilst this greatly simplifies construction, the perfectionist will need to saw out dozens of tiny windows—an immense task—or else paint them black which is nearly as difficult. This apart the kit is a pleasing addition to the ever limited range of airliner models available. Price is 16s 9d.

Incidentally, Revell ask us to point out that their advertisement which has appeared in the last few issues of the magazine has carried obsolete prices for the items illustrated. Correct prices are: Ju 87B, 19s 9d; Yacht America, 90s; and the Enterprise, 26s. C.O.E.

NEW TRANSFERS

ALMARKS have now released the first of their 1:32 scale transfers intended for the Revell aircraft kits to this scale. These are neatly done, complete with stencil details and tiny letter-

ing, and offering one set of markings for the Me 109F and one set for the Ju 87B, featuring 3/JG 27 and III ST/G2 respectively, plus half a dozen spare emblems, etc. Our only small criticism of the sheet is the shortage of swastikas which are really needed here to offset their omission in the kit. This point apart the transfers are neatly printed, perfectly registered, and good value at 7s 9d a set. C.O.E.

NEW AIRMODELS

A DETAILED article on the Airmodels range appeared in our last issue. Meantime we've had review samples of the two latest issues, the Dornier Do 217 K-1, and the Dornier Do 17 P-1, intended for the Airfix and Monogram kits respectively. Each conversion kit features a complete two-part nose section, plus a transfer sheet and instruction sheet. Of the two, the Do 217 K-1 is a particularly tricky conversion if tackled from scratch. A conversion article on the very similar Do 217 K-2 appeared in our May 1967 issue for anyone who needs more details (we can no longer supply it). The Airmodel kit looks after the problem of the bulbous nose most admirably. It is all in clear plastic so that when painting, just the 'glazed' areas are left bare, following the moulded frame and panel lines. Our samples came via the main British importers, Argyle Models Ltd, 247 Argyle Street, Glasgow C2. Price is 9s 11d each, postage extra. C.O.E.

FROM NEW ZEALAND

ONE of our readers, L. Smith, 14 Chatsworth Crescent, Pakurango, Auckland, New Zealand, has sent us a couple of samples of plastic kits available in New Zealand in the RSL Classic series. In fact, despite the 'Made in New Zealand' lettering, both samples originate elsewhere, or at least the moulds do.

First kit, the Boeing F4B-4 is in essence the old Aurora 1:48 scale item, but better presented than Aurora ever did it. The transfer sheet is also better. This attractive biplane was one of Aurora's better models, and indeed it is quite a collector's piece now. As offered by Classic it presents a chance for anyone who missed this Boeing fighter first time round to acquire it now. The price is 98 cents (NZ), about 10s Sterling. There is a fair amount of flash, but generally the kit is well moulded and nicely detailed.

Second kit, by contrast, is a 1:87 scale 6 x 6 GMC truck which we identify as a Roco-Minitanks model presented in its basic component form. There is a brief instruction sheet and the price looks to be 49 cents. However, as these models can be purchased in Britain and most

Continued on page 90

AIRFIX magazine

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P.40B Tomahawk 1/72 3/6
BAC Lightning 6* 1/72 8/6
Phantom F-4H/M* 1/72 8/6
F-100D Super Sabre* 1/72 8/6
H.S. Harrier GR.Mk.I 1/72 8/6
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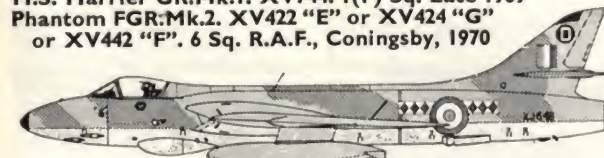
LINDBERG
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Messerschmitt ME.163 1/72 5/11
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H. Hunter F.Mk.6. XJ646 "D". 14 Sq. Royal Air Force, Gutersloh, Germany. Sept. 1962
G. Meteor F.Mk.4. VT 346 "D". 63 Sq. Royal Air Force, Waterbeach, England, Oct. 1950
H.S. Harrier GR.Mk.I. XV744. 1(F) Sq. Late 1969
Phantom FGR.Mk.2. XV422 "E" or XV424 "G" or XV442 "F". 6 Sq. R.A.F., Coningsby, 1970



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NOTE: All Modeldecals sheets contain full markings to complete all models listed except sheets nos. 1, 2 and 7, where the 'D' type roundels are used from the respective kits. However, the Hunter section only on No. 7 does include roundels. Harrier markings on No. 7 are intended to complement those in the Frog kit. Instrument panels included for all machines on sheets Nos. 3, 7.

MODELDECAL — THE FINEST

New Kits—continued

other countries, there is little rarity value here.

Anyone wanting either of these kits (or others in the range) should contact Mr Smith direct, either to arrange a direct exchange or ascertain addresses of mail order suppliers. C.O.E.

NEW SHIPS

FROG have re-issued four of their 1:500 scale warships in a new polythene bag pack and we looked at the *Hero* kit, supplied by Jones of Chiswick, who offer it at the standard price of 3s 6d (postage 1s 6d extra).

The overall length of this pre-war 'H' class destroyer comes out at 7.75 inches, making her astonishingly large all-round, compared with a similar model in 1:600 scale. Advantage has been taken of this increased size, making splinter screens and wind-dodgers around gundecks nearer scale thickness.

We were pleased to see that the correct angled bridge-front of this particular ship was modelled but the rear of the bridge is at fault and the funnels are over-tall.

The instructions follow a straightforward number sequence only slightly amplified by basic symbols indicating 'cement parts together', 'cut with a sharp knife' and so on, no doubt to aid the overseas purchaser (who is catered for by a brief multi-lingual write-up).

photoPAGE

More rare pictures from readers with captions by Michael J. F. Bowyer. A free Airfix kit is awarded for every picture published, but please note that there is usually a delay of some months before publication due to the limited space at our disposal.

Top right: A Savola Marchetti SM82 'Mar-supiale' of the 36° Gruppo Trasporti in 1949. The aircraft is silver finished, with matt black anti-glare panel. Italian roundels in six positions. 88 and the dash black, 5 red. The script near the numerals is SM 82 MM 61868.



This is a robust kit for the junior modeller who is not concerned with accuracy; a kit with 'super-detailing' potential for the advanced modeller; but one whose conflicting illustrations and lack of detailed painting instructions may be a disappointment to the average customer.

The other three kits, re-issued at the same price, are *Ashanti* (pre-war Tribal), *Torquay* (post-war A/S frigate Type 12) and *Undine* (post-war Full Conversion A/S frigate Type 15). P.H.

This is the time of year when anyone attracted to railway modelling starts to think about building a layout during the long winter evenings. Here are a few items for those who seek something a little different from run-of-the-mill stuff. For instance, American models compare very favourably in quality, price and appearance against British-made models. **Top:** At 33s 6d this 1929 'Pluto Water' billboard reefer—private owner refrigerator van in British parlance—is from the top end of the price scale in the large Trains Miniature range. It comes in kit form, one of the finest we've seen. All parts are ready painted and beautifully lettered, assembly is simple, and features include sprung bogies, fine scale wheels, pinpoint axles, opening ice locker doors, and sprung NMRA couplers. In short a joy to make and run. There are other liveries available (and other types in the range) and the kit is available from Victors, 75 Chapel Market, London N1, postage extra. **Above:** Perfect companion to the reefer is this superb Rivarossi HO scale model of a Baltimore & Ohio C-16a 0-4-0 switcher locomotive of 1926 vintage, a rebuild of a 1912 saddle tank which is also modelled by Rivarossi. The C-16a would make a fine first loco for an American-based layout and this model comes close to perfection with separate handrails, working valve gear, daylight under the boiler, close coupled tender, and a flawless performance at any speed. It is supplied in a beautiful foam-lined display box. Only the couplers need changing (a simple task) to NMRA type to match up with most American models. Our sample came from BMW Models Ltd., of Wimbledon, and is reasonably priced (for such exceptional quality) at £6 12s 6d, postage extra. **Below:** Not new to these pages, but worth considering if you fancy narrow gauge, is the Minitrains range, shown almost in its entirety. Made by the Minitrains people, these are top quality models of American narrow gauge equipment, widely used in USA and elsewhere. The Baldwin saddle tank costs 52s 6d, the modern Plymouth JDT diesel costs 49s 6d, and the wagons from 5s 7d each. At these very reasonable prices it is possible to acquire a modest little layout at under £5 which is not bad by present day standards. Minitrains are distributed in Britain by Riko and are sold by most model railway shops. We'll be returning to these items in some later articles in the magazine.



Above: A CRDA Cant Z 1007 at Vicenza airfield in August 1940. The aircraft (of which only 34 were built) was very different from its successor, the 1007 bis. It belongs to the 50° Gruppo BT, 210° Squadriglia. The numerals are black. It has a wavy dual-pattern camouflage of sand and dark olive green; undersurfaces light blue-grey.

Left: A row of CRDA Cant Z 1107s of the 50° Gruppo BT, 211° Squadriglia at Vicenza airfield in August 1940. Camouflage is like the aircraft above; black numerals. Note the different camouflage pattern of the second to last aircraft. All these rare pictures come from reader Giuseppe Ghergo. The two lower pictures were taken at the time the 50° Gruppo handed over its Cant Z 1007s and took on charge the new 1007 bis.



Letters to the Editor

Body putty

AFTER reading Steven Martin's letter in May's *Airfix Magazine*, I thought readers might like to know my formula for body putty. Mix a thick solution of clear dope and boric acid powder and then pour it into a jar of white spirit. Stir the mixture and then drain the turps off. After about five minutes the resulting substance can be used as a body putty and dries after about 24 hours. The method is so quick and simple that it can be made (in 10 minutes) as you need it.

Another tip: 5 amp fuse wire is very handy for making small details such as loop aerials and control columns. It is very cheap and useful.

D. M. Clarke, Mitcham, Surrey.

Tending the Hart

PHOTOGRAPHIC evidence suggests that the engine cowlings on No 33 Squadron's Harts were not polished—but of anodized aluminium. This appears particularly evident in photographs of Hart K2443. Other aircraft with similar cowlings were Ospreys, Nimrods and Gloster Gauntlets. Could you please confirm?

Regarding the bewildering blunder (page 389 Bombing Colours No 13, April 1970) of Harts K9935 and K9937; this quick starting pair were all Spit—and no polish!

J. W. Town, London N12.

Bruce Robertson writes: All aluminium cowlings, in accordance with directions from the Aeronautical Inspection Directorate of the Air Ministry in the 'thirties, were anodized. This was an electrolytic process which artificially thickened the natural film of oxide on the surface of aluminium and gave added protection against corrosion. This process had a dulling effect on the metal which some squadron commanders rather resented. It could be removed by emery paper and a polish finish applied and this was a matter on which squadron commanders and station engineering officers had differing viewpoints, until instructions were issued that cowlings would not be polished.

In the reference to No 33 Squadron, K9935 and K9937 were misprinted for J9935 and J9937. The point of Mr Town's pun is that the 'K' numbers were allotted to Spitfires!

Sd Kfz 263 details

WITH regard to the article in the July issue of *Airfix Magazine* on converting the Sd Kfz 234/4 to an Sd Kfz 263 Pz, Funk Wagen, the superstructure of the model is 3 mm too low when compared with photos of the actual vehicles. The superstructure templates should be made higher therefore, and to compensate for this the front aerial support legs should be shortened by only 1 mm. This is because the total height of the vehicle is 40 mm (10 scale feet) and not 38 mm as quoted. Also, the article states that the Sd Kfz 263 had no armament. This is incorrect. The vehicle was originally armed with an M634 7.92 mm machine gun fitted in the superstructure front. This was often removed

Letters to the Editor selected for publication entitle the senders to each receive a free Airfix plastic construction kit of their choice. We are always pleased to receive your comments and pictures, which will be considered for publication. Submitted material and pictures can only be returned if accompanied by a stamped addressed envelope, and the Editor cannot accept responsibility for safe keeping of any such contributions, neither does he necessarily agree with comments expressed by correspondents in the letters column. Please note that any letters anticipating a reply MUST be accompanied by a SAE or stamp.

from the vehicle in combat so one may omit it if desired.

Two small additions of detail to both the Sd Kfz 233 and 263 are a pick and an axe which were carried on the front plate of the hull. These can be made from scrap. L. C. Horsfield, London SE15.

Cloaks for figures

I have found a very easy way of making cloaks for ancient figures. Rather than making them from Plasticene, as is often suggested, I cut a piece of thin tissue paper of the correct size and glue it round the shoulders of the figure. I then cover the whole piece with polystyrene cement. When this has dried, the cloak becomes stiff, and can easily be painted in the required colour. This method can also be used to make blankets for horses, tarpaulins for wagons, etc.

J. Batch, Harrow, Middlesex.

Wagon wheels

MY son, a keen collector of American Civil War soldiers, recently began modelling a covered wagon with plastic card. The basic shape was easy, but the wheels caused a problem. However, his mother came to the rescue with an idea which I think is quite ingenious.

Cotton reels made by Coats are now made from plastic, and the centres are spoked for strength. If the ends are cut off, quite presentable wagon wheels can be made (example enclosed). Further spokes can be added for authenticity. As the centre of the wheel, after cutting, is far too large, a small round 'Lego' brick stuck into this centre makes a perfect wheel hub. Numerous wheels can be made from one reel.

Peter R. Little, Borrowash, Derby.

The sample Mr Little sent us looks most acceptable—though the wheel looks rather more suitable for 1:32 or 1:48 scale rather than 1:76—EDITOR.

Zimmerit effect

MANY modellers may be interested in how to produce the Zimmerit finish used on German tanks of World War 2. Funnily enough this is quite a simple process, the only things required being a fine metal comb, cellulose dope thinners and a brush.

Firstly 'paint' the area to be treated a bit at a time with the thinner. Then while it is

still tacky draw the fine comb across it and you will get the ridges required to give the Zimmerit effect. Note that hatches, visor covers, etc, were left free of the substance and therefore you must go round these on your model.

This method is ideal for 1:32 scale, but for 1:72 scale substitute very fine wire mesh for the comb. You cut this and pull out 2 or 3 of the cross strands so as to make a very fine comb.

R. Ward, Warrington, Lancs.

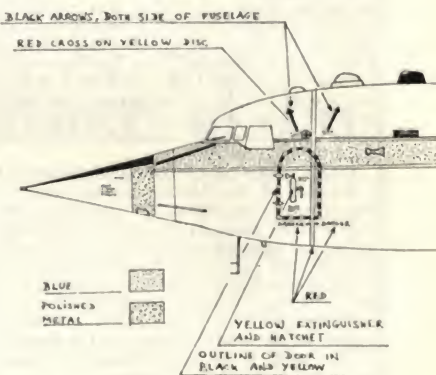
Mr Ward sent a sample to prove how truly effective this method is. A word of warning—use the thinners (or other cellulose liquids) very sparingly and carefully. It actually melts the plastic surface—EDITOR.

Dakota details

MAY I suggest another colour scheme for the 'Dakota with a needle nose' (August 1969 issue)?

'OT+CNB', with 'K4' on fin, had a white outline to the blue window flash, with thin blue outline to the white, bare metal rudder, silver propellers with yellow tips and slightly larger tail flash. Otherwise it was 'OT+CWS'.

I have added some details for the for-



ward fuselage of both models, which you will find on the joint drawing, based upon Richard E. Gardner's drawing.

The details come from colour slides which were taken by me at Melsbroeck, near Brussels, on June 22, 1967.

I hope these details will be useful to some modellers.

Luc Baeten, Brussels, Belgium.

Marauder squadron

IN your July issue of *Airfix Magazine*, Mr I. Ramsden of Dewsbury, Yorks set out to identify the Marauder III, coded 'L' which had appeared in the issue of March 1969. In that letter, Mr Ramsden mentions that the aircraft serial number was FB518.

My records show that FB518 was assigned to 12 squadron South African Air Force and given the call letter 'G'. This aircraft flew its first mission with 12 SAAF squadron on April 24, 1944. On July 13, Continued on next page

Letters—continued

1944, FB518 was badly damaged by an explosion over the target, and as a result of the damage received in that explosion was handed over to 109 RSU. Whilst operated with 12 SAAF squadron, this aircraft was only ever coded 'G'. If this Marauder was eventually reissued to a squadron it could have been recoded. By then however, it would have been at least August 1944, whereas Mr Ramsden notes that his photograph was probably taken during 1944 or 1945.

My last point is that the serial FB518 indicates that this aircraft was a Marauder II, not a Marauder III. All Marauder IIIs were in the HD serial range.

Trevor J. Allen, Brierley Hill, Staffs.

Second award

WITH reference to my Uncle's award of the Meritorious Service Order (Photopage, August issue), you may be interested to know that he was awarded the Imperial Russian Order of Saint Stanislas. This was also awarded in recognition of his gallant and distinguished service in Russia.

Paul E. Beaver, Basingstoke, Hants.

Meteor picture

WITH reference to the Meteor photo which appeared on Photopage in July 1970, your readers may be interested in some information about this aircraft. I would like to point out that I have doubts about the caption regarding the mark, date and place.

In John Rawling's book, *Fighter Squadrons of the RAF*, this aircraft is listed under No 74 Squadron as being an F4. No 74 Squadron took on charge this particular mark in December 1947, if this is the case then the aircraft should be Horsham St Faith not Lubeck as they were never in Germany post-war. This aircraft was then taken over by No 56 Squadron, and again in his book it is listed as an F4, bearing the codes 'US-S'. This squadron used this mark from June 1948.

In *Fighting Colours* by Michael Bowyer, a drawing of this Meteor appears camouflaged in the colours of 56 Squadron, and the caption gives it as an F4, although under the appendices EE459 is listed under F3s. He also states that he saw this aircraft as shown in the photo in September 1946 at the Battle of Britain Display at Marham, but still refers to it as a Mark 3. Examination of the photo shows that it has the longer engines of the Derwent 5s compared to the Mark 3's Derwent 1s.

My conclusions are that it is an F4, the photo being taken at Horsham St Faith between December 1947 and June 1948, even though it still carries the Type C1 fuselage roundel. As Mr Bowyer states in his book, Type D roundels took a while to be introduced and he did observe a Meteor in 1950 with the old Type C1 markings.

Peter Finch, London NW1.

M. J. F. Bowyer writes: Yes, we were wrong. EE459 page 542 July issue was a Mk IV. Framingley should read Finningley.

Saturn/Apollo colours

MR Baker's letter in the June edition of *Airfix Magazine* regarding the excellent model of the Saturn V rocket has prompted me to comment on two points he made and to provide further details which, I hope, will enable modellers to complete a really accurate model of Apollo 11/ Saturn V.

Starting from the top:

(1) The Launch Escape System rocket

and the CM protective cover (part 76) are both white.

(2) The Command Module (part 75) and the Service Module are both Silver. The SM has white Surface Radiators around the top and the lower surface area. This is well portrayed on the box-art. The pattern is repeated on the other side. Before the launch, the SM is covered by a white protective jacket, and this may lead to confusion with it being painted white.

(3) The Service Module is not too long, it is too narrow as a result of parts 62, 63 tapering at too great an angle. Unfortunately this means that the CM and its cover are also the wrong size; (the diameter of the CSM should be 1.1/8 inch). To remedy this is very difficult and the best visual result is obtained by taking off about 1/8 inch as Mr Baker suggests.

(4) The black band around the top of the third stage should include the top of the raised tunnel, but there is a white area 'let into' this just to the left of the tunnel. This is also well illustrated on the box-art.

(5) The 2 APS rockets at the bottom of the third stage and cut in half by the joint of parts 43 and 44 should be silver.

(6) The four 'blips' on the 2nd/3rd inter-stage should be white.

(7) There are 7 black oblong markings beside one of the UNITED STATES on the 2nd stage. These are well illustrated on the box-art, and can be cut from black transfer sheet.

(8) The black band around the base of the 2nd stage should cover all tunnels and details except for the 5 auxiliary tunnels (part 40) and the matching ones moulded in parts 28 and 29).

(9) The lower set of black vertical bands should stop before they reach the second corrugated ring, ie, at the top of the section with USA on it.

(10) The four fins and the part of the conical fairings below the level of part 18 should be silver/black in colour.

(11) The Lunar Module Ascent Stage should be silver: the Descent Stage should be gold (including the legs and landin pads.)

(12) All Rocket engine bells, except part 68 which is black, are silver outside and red inside. Parts: 18, 19, 25, 26, 27, 41, 42 and the inside surfaces of parts: 22, 23, 61, 62, 63, should be yellow/green.

All black areas should be painted gloss black or Humbrol Railway black rather than the matt black suggested.

John Boyes, Edinburgh 12.

Dozens of readers have written in on this subject. Published correspondence on the actual finish is now closed following Mr Boyes' definitive listing—EDITOR.

Making fairings

I HAVE much appreciated the Spitfire 16 conversion featured on the May issue. However I would like to suggest an easier way to make wing cannon fairings. This simply consists in putting a drop of vinylic glue on the wing and working it with a pin. The great virtue of this type of glue is that it doesn't melt plastic, dries with a very little shrinkage, accepts painting, and can be removed when dry without spoiling the plastic surface.

Alessandro Biagi, Livorno, Italy.

Mr Biagi sent us a convincing sample of a wing with small fairings added in this way. Finding a British vinyl glue may be difficult though, but the Humbrol PVC Repair kit adhesive might be suitable—EDITOR.

Squadron identity

WITH reference to the August issue of *Airfix Magazine*, the C-131A(M)

Samaritain 0-25787 shown, is one of five aircraft operated by the 439th Military Airlift group for aeromedical duties and stationed at Rhein-Main, West Germany. The serials of the five aircraft are 0-25787/788/790/805/806. The same squadron also operates four Convair C-118A(M) used for the same purpose and serialled 0-33244/266/269/279.

P. Leyshon, Brierley Hill, Staffs.

Letraset Dry Color

THERE has been a lot of comment recently on pressure sensitive decals. May I add some observations of my own? Firstly, Letraset, in addition to their usual alphabet sheets, etc, make a lot of supplementary ranges, the most useful being Dry Color which consists of sheets of coloured 'ink' applied in the same way as ordinary Letraset. Of these the most useful are the following: 20 (silver); 30 (blue); 25 (red); 23 (yellow); 33 (green); 17 (black) and 18 (white).

Secondly, I have evolved my own method for using these sheets since the suggested method of use is inclined to tear the sheets on edges or corners. (1) Cut a piece from the sheet about 50 mm x 100 mm, remove the backing paper and lay down on a clean, dust-free surface. (2) Burnish one edge to attach it to the surface. It is then possible to free the rest of the sheet of 'ink' from its carrier film without burnishing. (3) Press this 'ink' down gently with a finger. The free 'ink' can then be cut with a very sharp modelling knife, lifted clear and burnished to the model. (4) The surplus 'ink' can be painted and cut into very thin lines for cockpit canopy frames, which look as if they have been painted on. Pressing them down with a finger is quite sufficient to prevent them from coming off.

Of all the sheets, silver is the most useful since it is a good representation of natural metal. I have successfully covered a Monogram Grumman Albatross with this. It is advisable to back yellow and red with a ground of white paint first, however.

Gone are the days of difficult cheat lines, roundels (cut these out with a sharpened-up compass or similar weapon!), anti-dazzle panels, fin flashes, etc! With a little practice it's easy.

Ian C. Bishop, IPMS, Bristol.

GOING UP!

AS many readers will be aware, prices in this day and age are soaring and in publishing they are rising as swiftly as anywhere else. Paper is imported and paper costs have been specially affected since sterling devaluation in 1967. Added to this are ever increasing printing and labour costs; hence almost every newspaper and magazine in Britain has increased its price, often more than once, in the last couple of years. At *Airfix Magazine* we've managed by ruthless economy to keep to the same price over this same period, but yet another recent increase in paper prices now forces us to raise our cover price to 3s (15p) per copy as from our next issue, November 1970. However, we will whenever possible add extra pages per issue to our present minimum of 48 pages. So we think we will still be offering you top value for money. Postal subscriptions placed before the next issue appears will be honoured at the old rate of 36s for 12 issues; thereafter the subscription is increased to 44s.

Due to extreme shortage of space in this issue, the next instalment of 'The Stalin Tank' is held over until next month.

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rush of attackers.

These forts would not be intended to hold out for long against a properly equipped besieging force, but remember that the wild tribes to the North would have neither the equipment and training, nor the inclination, to carry out siege operations. Tribal enthusiasm (and food) soon run out when faced with the boredom and hard work of siege operations, and on the occasions when forts were taken it would have been by an all out rush with no more sophisticated equipment than crude scaling ladders, ropes and grapnels, and battering rams quickly improvised, and if the first two or three attempts were repulsed the original élan would tend to evaporate.

With this in mind I have shown some figure conversions and adaptations which can be shown as launching a battering ram at one of the gates. Practically all the figures shown are different, to give some idea of the variety that can be employed. The Slinger can be used as he is with the sling cut away, while the lunging Robin Hood swordsman, or the quarterstaff men can be used with the staffs cut away, or in the case of the man with the staff held across his waist, the staff can be left and can represent a bar or stake driven into the body of the ram as a handle. One of the most effective looking is the native from the Tarzan set, with his right arm cut off



Above: Some suitable tribesman figures to act as Barbarian beseigers for the Roman Fort, altered from various Airfix figure sets. In the foreground is a miniature battering ram with carrying handles from pins.

and then re-affixed with a little trimming in a lower position.

The ram itself is simply a piece of 1/4 inch or 1/8 inch dowel, tapered slightly, left rough finished, and with one end shaved down with metal plates nailed on the front. These can be card or paper suitably painted. Alternatively, the ram can be left as it is, with no metal head, but in any case fairly thick wire 'handles' should be put through at intervals for carrying.

Assembly and Painting

Assembly of the Fort hardly needs any words—the sections click together neatly, and in only one or two joints it is necessary to file the lugs a little to avoid undue strain in assembly. For the paint scheme one cannot really do much better than to follow the colours shown on the box lid. One important point though, do not use any gloss paints on any part of the model. I used an ordinary household undercoat for the main colour, and smeared in touches of matt grey and brick red. The internal buildings should be shown as limewashed with wooden frames, and the tiling on the parapets brick red.

When all the items are painted it is best

to mount the whole model on a suitable baseboard of heavy card or hardboard, and the internal buildings can be kept in position. Avoid painting the hinges on the gates if they are required to open and close.

For wargaming purposes the fort could be garrisoned with 30-40 figures, and one would have to treat these as individuals for all purposes, and amend whatever rules were being used accordingly. In the same way, any attacking force of tribesmen would need to be counted as individuals, and one would need about 150 at least to have a chance of storming the place, unless there was a possibility of a surprise night attack when the watch was sleepy, and off guard—one's own local rules would have to be made up to cover this eventuality.

To conclude, this is a fine little model, and very good value, whether used simply as a youngster's play fort, for a set piece diorama as part of Hadrian's Wall, or for properly set up wargames.

One more useful reference I should mention is a book by David Divine, called *The North West Frontier of Rome*. It is a military study of Hadrian's Wall, very well written and well illustrated.

WARGAMING

This fascinating hobby, which, over the past five years has taken such enormous strides forward is now this country's leading model intellectual pastime. So much so in fact that educational authorities, social workers, school teachers, television and film producers, publishers and manufacturers have all become greatly interested in the benefits to be gleaned from so exciting a recreation.

Today's wargamer is catered for by an overwhelming number of books, soldiers and attendant items as well as a specialised monthly magazine catering for his immediate requirements containing articles on all periods of warfare, advertisements, lists of wargaming hobby shops, details of new books, club announcements and dates of forthcoming events.

Recent copies of the magazine have contained articles on the take-over of a city by revolutionary forces, a Coup d'Etat; details of a large wargame-meeting at Tunbridge Wells in Kent; a discussion on the merits of phalanxes in ancient warfare; advice on recreating the English Civil War as a wargame; refighting the Battle of Waterloo with 20 mm soldiers; an explanation of the meaning of strategy; morale in wargames; information on the Napoleonic, Franco-Prussian and American Civil War, as well as German and British armies of WWII, formations, uniforms, weapons and tactics; plastic conversions; helicopters in warfare; wargame campaigns and battles, together with dozens of photographs, drawings and sketches of soldiers, vehicles and weapons.

In recent months wargaming has appeared on television; used with great effect in the Callan series on Thames Television as the background to a spy-thriller; and in August by the Inner London Educational Authority as an introduction to the hobby.

The whole idea of wargaming is to recreate in miniature the weapon capabilities and the tactical abilities of armies of a chosen period. Taking into account their problems of morale, supply and communications, in fact warfare in miniature. The international monthly magazine which covers this market is called *Miniature Warfare* and is available from the better hobbyshops throughout the world, or by direct subscription for £2 14s (\$8.00), the page size is 8" x 12" and its twenty eight pages are full of useful information both for the beginner and the advanced player.

If you have the slightest interest in wargaming, from either the playing, organising, educational or manufacturing standpoints you really can't afford to be without it, especially at only 4/- a copy. For a trial copy of the international monthly magazine for wargamers, *Miniature Warfare*, send a 4/6d P.O. (60c U.S.) and a 12" x 9" s.a.c. to *Miniature Warfare*, (Dept. AD), 61 Benares Road, Plumstead London, S.E.18, England.

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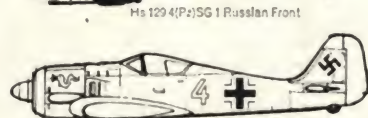
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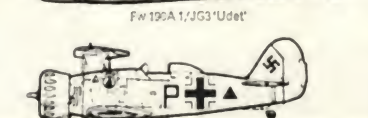
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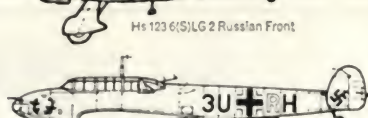
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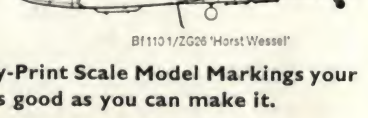
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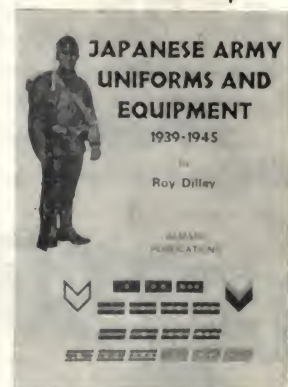
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